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> "*Of the men of arts the architect has best taught us how to construct works conducive to our national glory, and according with the spirit of that mysterious beauty which reigns in the works of God.*"—GEORGE PETRIE, LL.D.

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THE
ARCHITECT
AND CONTRACT REPORTER.
A JOURNAL OF ART, CIVIL ENGINEERING & BUILDING.

THE WEEK.

WHENEVER there is litigation about a church in France it is difficult to discover what is the exact cause in dispute. Many Frenchmen who hold office are enemies of ecclesiasticism in all forms, and their opposition will sometimes appear to be exercised indirectly. There is, for instance, a case which is now at issue which has interest for architects not only in France, but wherever cement is employed in buildings. The defendant is unable to tell whether the real grounds for action relate to the structure in question or to himself as a clergyman. The circumstances are simple. All who know Montmartre are aware that on its summit and close to the colossal basilica of the Sacré-Cœur there is the very ancient church of St. Peter. It is still the parish church. The building is in such a state the authorities resolved to remove it, but through the memorialising of archæologists it has been saved, and is about to be restored by the Municipal Council. The curé accordingly resolved to erect another church, but instead of placing it at the top of the hill he selected a site at the foot which he believed would be more convenient to the majority of the parishioners. The ground cost him half a million of francs. M. DE BAUDOT, the architect, who is inspector-general of diocesan edifices, was commissioned to prepare plans. But copies of the plans of the new building were not lodged. As well as can be made out, the reason was that with a building which was about to be started, although there were no funds, it would be unwise to be bound down by any set of plans. The character of the building would depend on the subscriptions received. If money came in liberally the curé would endeavour to have a large building, but if the amounts were small the building would have to be altered accordingly. He was, no doubt, apprehensive that if he applied for permission, authority would not be given to alter his plans. The offence could not have been very great, for the curé was fined 5 francs, and by the new Amnesty Act he will escape paying that small sum, but the police tribunal also ordered that the parts of the church which have been constructed must be demolished. The work has cost 300,000 francs, for there is a very large crypt which is used as a church, and which has been decorated by the pupils of M. GÉROME. It is supposed that the reason for the demolition is because the work was constructed in what is known as *Ciment Armé*, and after the accident at the International Exhibition that material is not in favour with the authorities in Paris. But it was demonstrated that the accident with the footbridge was not caused by any defect in the material, but arose from an unscientific arrangement of it. With an architect of the standing of M. DE BAUDOT there need be no fear that he would employ unsuitable materials, or would not arrange them with skill. Those who conclude that the true cause for the order for the demolition arose from a dislike to see a new church at Montmartre have therefore some grounds for their belief.

THE work executed by the Leeds Art and Tile Company, Limited, was so excellent, many architects who take interest in faïence and tile decoration as accessories in building believed there was a worthy addition to the producers of these materials. It would seem, however, that the ability to perform works was greater than the capital available for the enterprise. The same deficiency also produced delays which in the present building era cannot be overlooked. As the collapse of such an organisation would be a disadvantage to a most important industry, we are glad to learn that the company has been resuscitated under its old title. The staff has loyally remained, and henceforth will be under the management of Mr. R. C. BROWNE, whose ability was a factor in gaining reputation for the art pottery. It is announced that the late managing director is not now connected with the company in any way. We hope we are betraying no confidence when we add that the restored company will have the support of wealthy capitalists, and it may therefore be taken for granted that success is certain.

MR. RICHARD WILLIAM BINNS, who died a few days ago in Worcester in his eighty-first year, was a remarkable example of an energetic man who pursued a career under great difficulties. He was a native of Dublin, and was trained to be an engineer. In the early days of the Science and Art Department he succeeded in obtaining a mastership in the Training School. He taught geometrical drawing, which was then supposed to be the basis of all art. The treatises he published on the subject were for many years utilised by the students. Mr. BINNS and some of the masters on one occasion had a day's excursion in the country. He wished to show his agility by jumping over a stick. He succeeded, but somehow broke his leg, which had to be amputated. Afterwards he resigned his official appointment and joined the porcelain works at Worcester. There he was able to turn his knowledge of industrial art to account, and it was not long before the reputation of the works was raised to a higher level than formerly.

ANOTHER of the old market crosses of Scotland has been set up. The last example is at Inverness, and is owing to the generosity of Sir ROBERT FINLAY, the Attorney-General. The fragments of the old cross which have been preserved are incorporated in the new work. There is some fine carving in the restoration, including the Scottish unicorn supporting the Inverness town arms. The latter are carved in accordance with the instructions recently given by the Lord Lyon. The carving was done in Rome by an Inverness sculptor, Mr. ANDREW DAVIDSON, from plans furnished by Mr. J. H. GALL, architect, Inverness. The site selected for the cross is in front of the town hall, which was designed by the late WILLIAM LAWRIE. Beneath it is the old Clachnacuidin stone, of which the reputation is well known to Invernessians both at home and abroad. As the Attorney-General said, the Clachnacuidin stone was regarded with a good deal of affection and respect which attached to the old town in the north from which many sons made their way into the world to make their fortune. The town cross had been associated with all the recent history of Inverness, and they believed that the new cross and the old Clachnacuidin were destined long to remain, during the century which was about to open and many ensuing centuries, to watch over the growing prosperity of the ancient and royal burgh of Inverness.

YORK CATHEDRAL.*

THE earliest record of a Christian church in York is dated A.D. 627. Eadwyn, king of Northumberland, is said to have erected a little church of boards and timber, under the patronage of St. Peter, on the site of a temple of Diana or Bellona. The church was dedicated by Paulinus. The existence of Christian churches at an earlier time in the city may be assumed, for Romano-British bishops of Eboracum assisted at some of the ecclesiastical councils in Arles and other cities. The timber church of Eadwyn was intended to serve mainly as a baptistery. A large stone building was at once undertaken near it. Six years afterwards the king was slain in battle, but his successor, Oswald, who was also a Christian, completed it about the year 642. We next hear of its repair and adornment in the beginning of the eighth century by St. Wilfrid. His career casts a light on the realities of ecclesiastical control which were exercised in England at the time. When Wilfrid was selected to be Bishop of York, he was sent to Gaul for consecration by Agilberch, the Bishop of Paris. On his return he found Ceadda in possession of the See, and at once retired quietly to his monastery at Ripon. Theodore of Canterbury was then Metropolitan, and he restored Wilfrid and translated Ceadda to Lichfield. After a time Theodore deposed Wilfrid, who appealed to Rome. The Pope decided that he should be reinstated, but that he was to select out of his clergy three men who were to act as bishops in the more distant parts of the diocese. But Wilfrid was not allowed to exercise peaceful rule. He was driven from York into Wessex, and from thence into Sussex, where paganism prevailed. At a later time there was a second restoration of Wilfrid. Then there was another eviction, and he was compelled to appeal once more to Rome; but when he came back, with full powers, he was not accepted by King Aldifrid, who reigned, and the bishop sought shelter in Mercia. The fate of Wilfrid suggests that, with a diocese having an uncertain government, neither continuous nor costly building operations were to be expected. Whatever was the character of the cathedral, it was destroyed in 741 by fire. It was rebuilt by Bishop Aiglibert or Egbert, and it is thought that some fragments of his building are to be found in the crypt.

There was another subject which caused unrest at the same period. In the instructions which were sent to St. Augustine of Canterbury by Pope Gregory, it was ordered that York should be an archdiocese as well as Canterbury; but there seemed to be no disposition to carry out the arrangements, and, as we have seen, Archbishop Theodore exercised almost despotic power over the Bishop of York. It was not until the twelfth century that Thurstan was able to secure the independence of York.

Egbert's church must have suffered during the Danish attacks on York. At all events, Thomas of Bayeux, who was a chaplain to the Conqueror, and was the first prelate after the invasion, rebuilt the cathedral, and it is believed on a scale which corresponded with the new conditions of government; but, like its predecessors, it was destined to have only a short duration. In 1137 it was destroyed by fire, together with St. Mary's Abbey and thirty-nine of the churches of York. Over thirty years were allowed to elapse without any attempt to rebuild the cathedral. In 1171 Archbishop Roger began a new choir, which was usually the first work undertaken in those days, and the crypt. No part of the choir exists, but the crypt is a most important example of Norman work.

The present building may be therefore said to have been commenced in 1227, when the erection of the south transept was undertaken by Archbishop Walter de Grey, whose fine monument is seen in that part of the building. He appears from the effigy to have been a comparatively young man. Mediæval masonry generally warrants the oft-quoted lines by Longfellow:—

In the early days of Art
Builders wrought with greatest care
Each minute and unseen part,
For the gods see everywhere.

Unfortunately Archbishop de Grey's workmen were less anxious about the unseen parts, or the work had to be done economically. In 1871 the condition of the clerestory compelled the Dean and Chapter to invoke the aid of the late Mr. Street. It was discovered that a large part of the masonry consisted of small fragments of stone which were heaped up without any mortar to unite them. A casing of ashlar concealed the defective filling, which could never have added much strength to the clerestory. It was unavoidable that a large part of the south transept had to be rebuilt, but there must still be misgivings about the quality of other masonry in the cathedral.

In 1260 the north transept was completed by John le Romayne, treasurer of the church. He also erected a tower. The first stone of the nave was laid by his son, John le Romayne, who was archbishop in 1291, and the work required about thirty years. Robert de Vavasouer granted the use of a quarry near Tadcaster for the supply of the stone. One of his descendants was no less liberal in supplying stone in 1871. For the timber required a wood at Bolton was set apart by Robert de Percy. Archbishop Thoresby in 1352 appealed for assistance to pay the expenses of removing Archbishop Roger's choir and erecting another in keeping with the rest of the building. In eight years sufficient money was raised to allow the work to be commenced. A deed exists, dated July 20, 1361, by which Archbishop John Thoresby, with the Dean and Chapter, agree to the demolition of the archiepiscopal mansion at Shireburn, which was in a ruinous state, and to use the stones for the erection of the choir, and this circumstance reveals the efforts which were necessary to carry out so costly a work. About the same period Le Romayne's tower was also taken down and the present structure substituted. The regulations for the masons, which were issued in 1371, enable us to have a glimpse of the cathedral close while building operations were in progress:—

Itte es ordayned by ye Chapitre of ye Kirk of Saint Petyr of York yat all ye Masonnes y^t sall (shall) wyrke till (at) ye werke of ye same Kyrk of Saynte Petyr, sall fra Mighelmesseday untill ye firste sonday of lentyn be ilka day atte morne atte yaire werk in ye loge yates ordayned to ye masonnes at wyrke inwith (within) ye close bysyde ye forsayde Kyrk als (as) arly als yai may see skilfully by day lyghte for till wyrke, and yai sall stande yar trewly wyrkande atte yaire werke all ye day aftyr als long als yai may se skilfully for till (to) wyrke yf yt be alle werkday outher elles till itte be hegh none symtyn by ye clocke. When halyday falles atte none sauf y^t inwith y^t forsayde tyme bytwyn Mighelmes and Lentyn and in all other tyme of ye yer yai may dyne before none yf ye wille, and alswa ette atte none whar yame likes swa y^t yai sall noghte dwell (absent themselves) fra yair werk in ye forsayde loge na tyme of ye yer in dyner tyme, bote swa schort tyme yat na skilfulman sall fynde defaute in yaire dwellyng, and in tyme of mete atte none yai sall na tyme of ye yer dwell fra ye loges ne fra yaire Werke forsayde ovyr ye space of ye tyme of an houre. And aftyr None yai may drynk in ye loge, ande for yaire drynkyng time bytwyn Mighelmes and Lentyn yai sall noghte cese no lefe yaire werk passand ye tyme of half a mileway. Ande fra ye firste Sonday of Lentyn untill Mighelmesse yai sall be in ye forsayde loge atte yaire werke atte ye son risyng, ande stande yare trewly and bysily wyrkande upon ye forsayde werke of ye Kyrk all ye day untill itte be namare space yan tyme of a mileway before ye sonne sette yf itte be werkday, outher elles untill tyme of none, als itte es sayde byfore; saf y^t yai sall bytwix ye firste sonday of Lentyne ande Mighelmes dyne and ette alse es byfore sayde, ande slepe ande drynke aftyr none in ye forsayde loge, ande yai sall noghte cese no lefe yair werke in slepyng tyme passande ye tyme of a mileway, no in drynkyng tyme aftyr none passande ye tyme of a mileway. Ande yai sall noghte slepe aftyrenone na tyme botte bytwene saynte Elennes and Lammes. And yf any mane dwell fra ye loge and fraye werk forsayde outher make defaute any tyme of ye yer agayne yis forsayde ordinance, he sall be chastyde with abatyng of his payment atte ye lokyng ande devys of ye Maistyr Masonn. And all yer tymes ande houres sall by reweled (ruled) bi a bell ordayned yarefore. Ande alswa it es ordayned y^t na masson sall be receavyde atte wyrke to ye werk of ye forsayde kyrke bot he be first provede a weke or mare opon his wele wyrkyng, and aftyr y^t he es foundyn soufissant of his werke be receavyde of ye comune assente of ye Mayster and ye keepers of ye werk, ande of ye maystyr masonn, and swere opon ye boke y^t he sall trewly ande bysyli at his power for oute any maner gylyry (guile) fayntys (feints) outher desayte, hald and kepe haly all ye poyntes of yis forsayde ordinance in all thynges y^t hym touches or may touch, fra time y^t he be receavyde till (to) ye forsayde werke

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* See Illustration.

> als lang als he sall dwell masonn hyryd atte wyrk, till (to) y^t forsayde werke of ye kyrk of saint Petyr. And noght ga away fra y^t forsayde werke bote (unless) ye maystyrs gyf hym lefe atte parte fra y^t forsayde werk. And wha sum evyr cum agayne (against) yis ordinance ande brek itte agayn ye will o ye forsayde Chapitre have he goddes malyson (malediction) and saynt Petyrs.

Between 1405 and 1426 the remaining works, with the exception of the western towers, were executed. The towers are to be credited to JOHN DE BERMINGHAM.

It is occasionally said that the interior is more suggestive of great length than other English cathedrals. But the dimensions do not agree with that conclusion. York Cathedral measures within 486 feet. The length is therefore less than in Winchester (530 feet), Ely (517 feet), Canterbury (514 feet). Moreover, York is of greater width. The nave is 106 feet, while in Winchester it is only 85 feet, in Ely 75 feet, in Canterbury 73 feet. In width York exceeds all the remaining English cathedrals. York has also greater height in the interior, the nave measuring 93 feet and the choir 101 feet. The peculiar ratio between the length and breadth of the interior of York Cathedral has been explained by Mr. FERGUSSON as an illustration of a system of development which was his own. He wrote:—

> Owing to the great width attempted for the nave York has not the usual proportion of length affected by other English cathedrals, and loses in effect accordingly. Its great peculiarity is the simplicity and squareness of its plan, so unlike what is found anywhere abroad. The church is divided into equal parts—one devoted to the laity, one to the clergy. There are no apsidal or other chapels. Three altars stood against the eastern wall, and it may be three or four in the transept. Beyond this nothing. There is none of that wealth of private chapels which distinguishes continental cathedrals and churches, or even Canterbury, the most foreign of our English examples. The worship even at that early period was designed to be massive and congregational, not fretted away in private devotion or scattered services, and marks a departure from continental practices well worthy the attention of those who desire to trace the gradual development of the feelings of a people as expressed in their architecture, and the architecture only.

Any notice of York Cathedral, however brief, would be incomplete unless there was a reference to the stained glass. One contract deed of A.D. 1338 shows that ROBERT, the glazier, agreed to glaze and paint the great western window and supply the glass at the rate of 6*d.* per foot for plain and 12*d.* per foot for coloured glass. In another deed, dated August 10, 1405, we find JOHN THORNTON, of Coventry, agreeing to glaze and paint the great eastern window. He was to do the painting with his own hands and the work was to be finished in three years. He was to be paid at the rate of 4*s.* a week, with 100*s.* at the end of each year, and if he performed the work satisfactorily he was to receive 10*l.* in silver. Fortunately much of the old glass remains, and although it is in parts corroded and cracked, it has a charm that is more easily felt than explained. The transeptal window known as the "Five Sisters" has acquired its interest mainly through legends which are more or less irrelevant, and one of them is introduced in "Nicholas Nickleby." But although only in grisaille, the window has a mysterious appearance, which to many is preferable to any precise representation of the patterns. The effect of so many windows in Mediæval times has been well described by Canon RAINE in his book on York:—

> The central point in the Minster in old days, whether for beauty or for ornament, was the high altar, which stood against a screen of wood (now taken away), a bay westward from the present screen of stone. The space between the two screens sheltered the famous shrine of St. William, in which his head, in a richly jewelled case, was shown to the devout worshipper. Along the top of the wooden screen, which was finely ornamented and gilt, there was a passage in which musicians were placed on high festivals to give an additional dignity to the services, and in the centre, "high and lifted up," there was a magnificent rood. The altar on great days was ornamented with a table and retable of silver, on which some of the most precious treasures of the church would be exhibited. There was little or no painting on the walls and roofs to set the building off, and it was not necessary. There was colour of a different kind in gorgeous profusion, and it met the eye in a thousand beautiful hues, and on every side, in the gloriously decorated windows which have made York Minster famous throughout Europe. When the priest at the high altar was looking eastward the rood above him would appear to be enshrined in the rich colours of the east window, which set forth in a wonderful order the story of the Old Testament from beginning to end. If he turned westward, right in front of him in the distance was another stately window, Archbishop Melton's noble gift, filled with saints and bishops, on whom the setting sun seemed to be always shining. But there was stained glass everywhere. On his right hand, in the place of dignity, there arose in storey after storey, from the floor almost to the roof, the whole history of St. William, the patron saint of the cathedral; whilst on the left, in the corresponding transept and in a window of similar proportions, the piety of a dean of York, who had been elevated to the great See of Durham as well as to the cardinalate, had set up the whole touching narrative of the life and wanderings of his predecessor, St. Cuthbert. At every hour of the day the light streaming from one or other of these windows would be illuminating the altar. On every side there was beautiful colouring of beautiful glass of every possible variety and execution, almost entirely, I believe, of English workmanship, and the greater part of it most probably wrought in York itself. And happily the most of it is still there, in spite of fires and lapse of time. Shattered although it is, the general effect is the same. These windows had an inspiration of old; and it is still there, and we bow, as it were, before the illuminated pages of a sacred book which held our ancestors in thrall.

Fire was the persistent enemy of the Mediæval cathedral, and that it is not subdued was shown by the outbursts of 1829 and 1840. The former arose soon after a restoration of a large part of the building. The flames began in the choir, and after the destruction of nearly the whole of the woodwork, ascended to the roof, which for a length of 222 feet was consumed. The east window was saved by sawing asunder the timbers near it. The incendiary was a lunatic named MARTIN, who concealed himself behind a tomb in the evening. He escaped from the building during the fire, but was captured and confined for life in an asylum. The restoration which was necessary was directed by Sir ROBERT SMIRKE and cost nearly 70,000*l.* The second conflagration arose in the south-west tower, which was nearly destroyed, and extended to the roof of the nave. The reparation of the damage cost about 23,000*l.* All who love ancient architecture must earnestly desire there will be no more repetitions of a fatality to which York Cathedral has been so often subjected.

ARCHITECTURE IN 1900.

THE closing year of the nineteenth century has been by no means uneventful in the domain of architecture. Several important projects have passed the initial stage, several men of mark have been taken away.

The competition for

THE NEW SESSIONS HOUSE, OLD BAILEY,

has been decided, and Mr. E. W. MOUNTFORD has added another prize to his now lengthy list of competition successes, in this instance, as in others, with the practically unanimous approval of his professional brethren, and even the ungrudging acquiescence of his fellow competitors. Not that Mr. MOUNTFORD's design is universally considered perfect, or even superior in all respects to the varied excellences of the other competitive designs; but these excellences are for the most part allied to more serious defects than are to be found in the successful design, so that this latter, on a balance of considerations, is generally admitted to be the most suitable of those submitted, and one promising to add to the great buildings of the Metropolis an example of which the architecture of the century need not be ashamed.

Of scarcely less importance was the competition for the

NEW OFFICES IN LIVERPOOL OF THE MERSEY DOCKS AND HARBOUR BOARD,

a building estimated to cost some 300,000*l.*, and the selected design for which is the joint production of Messrs. BRIGGS & WOLSTENHOLME and Messrs. F. B. HOBBS & ARNOLD THORNELY, whilst the second premium was awarded to Messrs. WOOLFALL & ECCLES, and the third to Mr. JAMES H. COOK. Bearing in mind that the competition was limited to local architects, the illustrations of the selected design, which we published in our issue of July 20, afford yet one more proof, if such were needed, that there are to be found in the provinces architects of equal calibre to the ablest members of the profession of which the Metropolis can boast.

Possibly nowhere in the kingdom outside London is to be found greater architectural ability than in Glasgow, and it is therefore not surprising to find that in the competition for the

New Glasgow Royal Infirmary,

a building which will cost close upon a quarter of a million sterling, and for which six Glasgow architects, three other Scottish architects and four London firms were invited to compete, the design of Mr. James Miller, of West George Street, Glasgow, has just been selected. We regret, however, to note that this competition has not terminated in a wholly satisfactory manner, inasmuch as the design placed first in order of merit by the assessor, Dr. Rowand Anderson, has not been adopted by the executive committee of the subscribers.

The Leicester Infirmary Competition,

although a work of considerable magnitude, was very inadequately contested, and furnished an easy victory for the experienced firm of Messrs. Giles, Gough & Trollope. This competition proved the truth of the fact that open competitions, save in very exceptional instances, do not at present attract the leading members of the profession, who for some time past have been too fully occupied to care about entering the arena against all and sundry.

The first stage of another open competition, that for

The New Borough Asylum, Cardiff,

has resulted in the selection of six architects for the final contest, and although the buildings will cost some quarter of a million sterling, the selected six do not include the names of any of our foremost practitioners, thus furnishing one more proof of the abstention of well-established architects of high repute from the troublous sea of open contest.

Amongst the triumphs of the year must be included the masterly design of Mr. J. Glenn Gibson for

The New Municipal Buildings at Walsall,

which amongst the exhibited designs submitted in the final stage of the competition fully justified the judgment of the assessor, Mr. Macvicar Anderson, in selecting it for the first place.

An unsatisfactory competition has been that for

The Burnley Technical Institute,

in which the designs submitted by selected architects did not, in the opinion of the promoters, compare favourably with the preliminary plan prepared by the assessor, and a second competition was initiated for elevations only to the preconceived plan of the assessor.

The Free Library at Wolverhampton

has been commenced from the designs of Mr. H. T. Hare, selected in limited competition, and

The New Technical Institute at Eastbourne,

from the successful design of Mr. Philip A. Robson, is also on the way to realisation.

The limited competition for the

Blackburn Police Courts and Fire Station

has produced an admirable series of designs from the six architects selected, all of whom have made their mark in previous open competitions, and has resulted in the success of Messrs. Briggs & Wolstenholme, conjointly with Messrs. Stones & Stones.

In London circles the event of the year has been the preparation and exhibition of designs for the

Frontages to the Strand and the Crescent Road between Wellington Street and Clement's Inn,

of the great scheme of the London County Council, an event which, in spite of its importance, has hardly reflected credit on any of the parties concerned. The County Council has not distinguished itself for liberality in offering the meagre recompense of 250*l.* to architects of high reputation for an important piece of design; the Council of the Institute has lost dignity by first objecting to the unworthy terms of the County Council's offer, then nominating certain architects to be invited, and finally by the acceptance of the invitation by four of its own members. The architects who submitted designs have not enhanced their reputations by the drawings they sent in. The result is what might have been anticipated. The County Council possesses a number of drawings of little more prospective value than waste paper; the competing architects have the sum of 250*l.* each, which can scarcely do more than cover the cost of the work they have done, if indeed it does so much; the Council of the Institute is discredited in the eyes of the profession and of the public; London appears to be no whit nearer an escape from the nightmares of Shaftesbury Avenue, Charing Cross Road, Northumberland Avenue and Rosebery Avenue; a grand opportunity for the adornment of the Metropolis seems to have been lost; the art of architecture in this country has suffered by the failure of the chosen representatives to produce a design equal to what might be reasonably expected from any one of the eight under more favourable conditions.

The Great International Exhibition in Paris

has shown the transcendent ability of our neighbours in the artistic design of buildings of an ephemeral character, and in the architectural section of the exhibits England has not come off well in the matter of awards. Of eighteen grands prix not one has come to this country, whilst five gold medals out of forty-four and nine silver medals out of seventy are not calculated to flatter our national vanity.

Death has been busy during the last year in removing many names honoured in the world of architecture. John Ruskin, William Butterfield. William White, Charles Barry, William Young, Henry Currey, Thomas Harris, William Martin, E. Wyndham Tarn, C. H. Driver, Joseph Goddard, Walter Hanstock, Horace Gundry, Francis Chambers, E. Emlyn White, T. L. Lockwood, H. Cowell Boyes, were all well known in their respective spheres of architectural work, whilst the loss of prominent amateurs like the Marquis of Bute, Sir Frederick Burton and James Doulton is sufficiently regrettable in the annals of architecture.

An important event of the year has been the

Architectural Congress,

held under the auspices of the Royal Institute of British Architects, when some instructive and interesting papers were read, and the customary visits and social functions assisted in, what is perhaps the most valuable part of all congresses, the increase of camaraderie amongst those of cognate tastes and pursuits. Whether beyond this any permanent good results to architecture, either as an art or a business, is a legitimate field for scepticism.

The Visit of Her Majesty to Ireland

afforded an opportunity to the representatives of architecture in Dublin to play their part in the remarkable welcome with which that visit was greeted, and resulted in one more addition to the scanty list of titled architects, in the person of Sir Thomas Drew. Why, if architects are at all worthy of titles, the number granted to the profession should be so few that scarcely ever is more than one title in existence at any time, is a mystery that we do not attempt to fathom. What there is in present Irish architecture to justify titular honour being bestowed on even so able and genial a representative of the profession as Sir Thomas Drew, to the exclusion of English or Scotch practitioners, is beyond our ability to discern. There is but one conclusion, which is that, in architecture, virtue is its own reward.

The South African War

has undoubtedly had some influence, though probably a small one, on the business of architects. Certain it is that though things are still fairly prosperous in building, there is not the same activity that existed before the war, but whether it is entirely the war, or whether it is the operation of other causes, and particularly the customary lull that comes after a boom, is a question that is a fair one to put to students of political economy, but hardly capable of useful speculation by our readers or ourselves. Undoubtedly the lessening of activity in building which is now making itself felt is not without advantage, for it is possible now for a master builder to resume his proper position as the master and director of his men rather than their humble dependent. There is less need now to keep on and put up with the vagaries of the incompetent or indolent workman in the building trade than there has been, and it is now possible for a builder or architect to mildly suggest that work may be better done without having to face the contingency of a general exodus of indignant British workmen from the job, confident in the assurance that there are several other jobs round the corner, where their advent will be eagerly welcomed. Nevertheless, in spite of recent reductions in the price of bricks and timber, the depreciation of gold and the appreciation of coal and metals used in building will probably defer for some time any great reduction in the average 30 per cent. increase in the cost of building that has occurred within the last three or four years, if indeed such reduction can ever be expected.

Capital apparently still finds profitable employment in bricks and mortar, to judge from the appearance of such spectacles as are to be seen around London's Finsbury Square, and many other localities both within and without the Metropolis.

In London the change in the form of municipal government by the creation of

Borough Councils

which has taken place within the past year may be expected to bring about an increase in building activity within the Metropolis in the near future. Some boroughs need town halls, although it is true others have more than they want already. This is not the only direction, however, in which building may be expected in the quickening of municipal life that is probable from the borough councils. Already the

Housing of the Working Classes

is engaging the attention of more than one. The example of the London County Council in purchasing 38 acres of land at Tooting on which to erect houses for the working classes at an outlay of half a million sterling, the acceptance of a tender at over 110,000*l*. for dwellings at Millbank, and the purchase of about 31 acres of land at Norbury at the rate of 600*l*. per acre, also for the purpose of erecting cottage dwellings, is one that will undoubtedly have followers amongst our newly-constituted authorities. Nor is this activity confined to London. Edinburgh, Liverpool, Birmingham and other towns are adopting the same policy. Verily, the working man of the present and near future should be on the high road to paradise, with higher wages, less work and decent municipally-provided homes.

The solution of the housing problem is intimately connected with the provision of cheap and quick transit, and the phenomenal success of

The Central London Railway,

familiarly known as the "twopenny tube," opened during the past year, has already quickened the promotion of similar enterprises, which will probably ere long result in an extensive ramification of electrically driven railways, and so enable the Metropolis to in some measure make good its present inferiority in passenger locomotion to many of our provincial towns, which, by the ready acceptance of the overhead trolley system of electric tramways, have outstripped the capital city.

The Municipal Supply of Electricity

is still on the increase, as, for example, in the case of Hackney, which, following the example of its neighbour, Shoreditch, has started an establishment for utilising the destruction of refuse to the generation of electric current. Hornsey also has resolved on an expenditure of over 70,000*l*. for electric-lighting works. In the provinces the same thing is going on, Paisley, West Bromwich and the Wigan township of Abram being amongst the towns that are pressing on in the same course.

The Bridges of London

have occupied the attention of the governing bodies during the past year. The County Council has resolved on the rebuilding of Lambeth Bridge as well as Vauxhall, whilst the Bridge House Estates committee of the Corporation of London has adopted, subject to the sanction of Parliament, a scheme for the widening of the footways of London Bridge by means of granite corbelling, an idea which though to our mind vastly inferior in architectural character to the able design of Mr. ERNEST RÜNTZ illustrated in our last new year's number, is yet preferable to the previous abominable suggestion of a cast-iron balustrade on cast-iron cantilevers. Inasmuch as Sir BENJAMIN BAKER, the committee's own adviser, has even gone out of his way to express the opinion that complete success in the alteration of the design has not been achieved in other examples of bridges widened by the means of corbelling with which he is acquainted, we still live in hopes that if London Bridge must be widened, it will be by the adoption of a satisfactory architectural suggestion like that of Mr. ERNEST RÜNTZ. In the case of Lambeth Bridge, appearances point to the adoption of a granite-faced concrete structure rather than the weak though elegant treatment of Westminster, and if the County Council will but go a step further and allow an architect of artistic ability to assist their engineer, they may be able to produce a bridge which may fitly be associated with Waterloo and London Bridges.

A matter of some importance to the appearance of one of the most satisfactory monumental buildings of London,

The Church of St. Martin-in-the-Fields,

the proposed alteration to the steps at the west end in order to add some 2 feet 6 inches to the footway, has been, in our opinion, wisely dealt with by the London County Council in their refusal to contribute towards the cost of the proposed work.

During the past year architectural practitioners have been exercised in the discussion of the great bugbear, the present legal position of

Dominant Easements of Light and Air.

Not only have the Institute and the Society of Architects considered this important question, but Mr. WALTER EMDEN, in an address to the Sheffield Society of Architects, has brought the matter under the consideration of provincial practitioners. No more troublesome matter than the eternal question of ancient lights probably is to be found in the whole course of professional practice, and some equitable and reasonably inexpensive tribunal for the settlement of disputes is very urgently needed.

The Registration of Architects

has not apparently advanced, but stands where it did. The Society is still pressing it forward, the Institute still retarding; the Bill has again been before Parliament, but still remains unenacted. The arguments for and against have become wearisome by reiteration. Most of our readers have probably made up their minds one way or the other, and until a new generation of architects has grown up it is difficult to see any way out of the present *impasse*.

Connected with the business side of architecture must be noted the recent proposal of

New Conditions of Contract

brought forward by the Council of the Institute as satisfactory to the representatives of the building trade. These, however, have not met with the approval of the general body of the members of the Institute, and are consequently not yet adopted.

Very creditable to the building trade, and particularly to manufacturers of articles required in building, has been the response to the appeals put forth by a representative committee of architects and builders for donations to

The Building Trades Gift to the Nation,

a number of homes now being erected at Bisley for discharged soldiers and sailors. We understand, however, that a very large proportion of the builders in England are not yet included in the list of donors, and we hope to hear that when fresh appeals are issued by the committee this defect may be remedied.

The Institute of Public Health,

in its congress at Aberdeen, did useful work in the dissemination of knowledge and discussion of difficulties concerning the improvement of the public health.

In sanitation, the past year has seen the rapid adoption of bacterial systems of dealing with sewage, both in single contact and double contact beds, and it may be considered fairly established that in these systems a very grave difficulty finds its solution, a solution that is as readily applicable to the needs of a detached and isolated country house as to those of a town of many thousand inhabitants.

The whole world of architecture cannot but regret the unfortunate floods that have visited the ancient city of Rome during the past autumn, and must have prejudicially affected the excavations in the Forum, excavations which during the past year have been fruitful in the recovery of highly interesting remains.

In

Ecclesiastical Building

the past year has seen the acceptance of a tender at 24,373*l.* for the extension of Wakefield Cathedral, whilst the appointment of Dr. Chavasse as Bishop of Liverpool has led to the revival of a project for the erection of a cathedral church in that city, which, however, at the present time is not likely to advance very far, although Mr. T. D. Barry prepared plans some time ago for the Church Street site, which is at present in favour. The authorities of the metropolitan cathedral of St. Paul are still proceeding in their own way with the adornment of the interior, and still receiving and ignoring protests from those who may be supposed to have a better idea of the fitting treatment of Wren's great work than a body of clergy whose zeal and self-confidence are superior to their artistic knowledge.

Amongst the notable buildings of the year must be mentioned

The Glasgow International Exhibition,

which, although not rivalling that of Paris in size, is sufficiently far advanced to justify the expectation that it will worthily represent British industry in the opening year of the century.

GUSTAVE COURBET.*

If the paintings of Gustave Courbet should be neglected like those of greater artists, his name has a chance to be remembered. If after 2,200 years the desire of Herostratus is accomplished, and his burning of the Ephesian temple has kept him from oblivion, we may suppose that Courbet's share in the destruction of the Vendôme column in Paris will not be forgotten after a period equally long. That a French artist should propose to overthrow a memorial of French victories—for no less than 1,200 Austrian cannon were utilised towards producing bronze for the column—will be a mystery to posterity, and many theories on the subject may arise. His part in the vandalism is not clear. After the fall of the Empire in 1870 he, as President of the Commission of Fine Arts, proposed that the column should be demolished. There were more important affairs before the new French Government, and Courbet's scheme was disregarded. Then came the Commune, with Courbet as director of art. It was decided to pull down not only the statue of Napoleon which surmounted the column, but the column itself, with its reliefs of the campaign of 1805. Some believe the destruction was arranged by chiefs who were more violent than Courbet, and he was no more than the scapegoat. However, on the re-establishment of order he was sentenced to six months' imprisonment for the offence, and was ordered to pay the cost of the restoration, which was about 16,000*l.* Courbet fled from France, and died in exile at Tour-du-Peilz, Switzerland, in 1877.

It is only necessary to glance at the print we publish from Courbet's portrait of himself (for he is *L'Homme à la Ceinture de Cuir*) to perceive that he was a restless, dissatisfied being, who was not to be confined within any limits set by conventionalism. He was so good a hater he would have satisfied Dr. Johnson himself, and his passion to eradicate Bonapartism with all its columns and social trophies corresponded with the spirit which animated him as an artist. And yet it might be concluded he would from his position be always found on the side of law and order, in art as in other matters. Courbet was not by birth or training one of the proletariat, and he knew nothing of those privations which so many poor students of art in France have endured on their way to a seat in the Institut. He was born in 1819, five years after Millet, with whom he is so often contrasted, at Ornans, where his father was a rich farmer. Pastoral life in the French provinces is not arcadian, and for all we know to the contrary, it may have been the condition of his father's labourers which impressed him with the dreariness of a peasant's lot, and compelled him to exhibit it on canvas in all its grim reality. His father had decided that his son was to become an *avocat*, and accordingly Gustave received an education to qualify him for the profession. But while studying in Besançon he contrived to obtain some instruction in art. Courbet went to Paris to complete his legal studies, but Art and Law in the Quartier Latin easily come in contact, and the son of the Ornans farmer was more often to be seen in ateliers than in the Ecole de Droit. He made copies of many pictures in the Louvre, and having extraordinary energy, no doubt believed it was possible to follow his own inclinations without departing from the path which filial duty prescribed. But the dual employment could not long continue. Art gained the upper hand, and in 1844 Courbet made his *début* in the Salon with his own portrait. It was the first of a series, for he took pleasure in having himself as a subject.

It was impossible for any man of Courbet's age, and with nerves like his, to remain quiet in Paris at that time. There was revolution in the air. Not only were the King and his Ministers mocked every day, but the lower strata of society were disturbed by romances in which the poor alone were described as worthy of enjoying the earth and its treasures. Courbet appeared to believe they alone merited to be painted. In 1848 he sent to the Salon a homely piece, his *Après-dînée à Ornans*. It was a picture of a family meeting such as he must often have witnessed. But it was not startling by its novelty, and it won for Courbet a second-class medal, which gave him henceforth a claim upon a part of the Salon walls. His *L'Enterrement à Ornans*, which was seen in the exhibition of 1850, caused unusual commotion. The strangeness of the subject made visitors imagine it was untruthful, for in no painting in earlier exhibitions had they seen such figures. The village beadles with their red faces, the keeners, or weeping women, the peasants in novel costumes, and the sense of air and sunshine which pervaded the picture, and suggested the indifference of nature, were all incomprehensible to Parisians. Another picture was *Les Casseurs de Pierres*, which was as true to life as Mr. Wallis's *Stonebreaker*. After the Revolution was subdued, and people were thinking of a new era in which the moneyed classes would have their way, and here was a new painter with a mania for thrusting disagreeable subjects before their eyes. In 1851 was seen *Les Demoiselles de Village*, which was enough to overcome illusions about country life, and in 1852 the *Baigneuses*, which was believed to be the ugliest work produced by human hands.

The climax was reached in 1855, when Courbet, in defiance of public opinion, made the experiment of opening an exhibition of his own works in the Avenue Montaigne. On a signboard he had inscribed

DU RÉALISME.
G. Courbet.
Exposition de quarante tableaux de son œuvre.

A "one man exhibition" was thought to be a peculiarly English institution, and was then unknown in Paris. Courbet was not satisfied with exhibiting. He advertised, and that was interfering with the privileges of the State. It is amusing now to read of Maxime Ducamp's superciliousness towards the artist. He declined to criticise his work in the International Exhibition of 1855, because, as he said, "il a mis son nom et son boniment à la quatrième page des journaux, entre les dragées vermifuges et l'essence de salsepareille." We occupy ourselves exclusively with art, said the critic, and we can have nothing more to do with M. Courbet. The painter, however, believed he resembled the varieties of handworkers, and if it were honourable for any of them to advertise he also was bound to do the same. His pictures were made to be sold, and he was justified in informing the public of the place where his wares were to be found.

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* See Illustration.

At the time it was regarded as decorous to draw a curtain over much that existed in France, and all those in literature and art who exposed abuses were dubbed with the title "realist." Fifty years ago no worse term of opprobrium could be found. The title of realist has been imposed on me, says Courbet, in the same way as the title of romantic was imposed on the men of 1830. But in no period have titles given a just idea of things. As if to make fun of the name, he called one of the forty pictures in his exhibition *L'Atelier du Peintre – Allégorie réelle.* The painter, that is Courbet, is represented as moving back from his easel to observe the effect of his last strokes on the landscape he is producing. Near the picture is a woman completely nude, and a little peasant boy, who seems amazed to see on the canvas a scene with which he was acquainted. On one side a fashionable lady enters the studio with her husband and her little boy, and near them are portraits of some literary realists, including Prudhon, Baudelaire the poet, Champfleury, &c. On the other side are representatives of the humblest classes, mendicants, Jews, curates, clowns, funeral attendants, &c. They were intended to suggest the kind of subjects which the artist wished to paint. Many were amazed that the painter should care to reproduce such ugly people, and one of the Paris wits represented Courbet as saying, "Vive le laid! le laid seul est aimable."

Much as he might admire the denizens of the garrets and the alleys of Paris, Courbet did not give up all his ability to them. He loved the country, and knew his own district as thoroughly as any poacher. It might be thought from the naturalness of his pictures of deer that he watched for them with a poacher's craft, and was therefore able to represent them in a manner which was different to that of the admired animal painters. It is by his forest scenes that Courbet is most likely to be remembered. His *Remise des Chevreuils*, painted in 1866, and which is now in the Louvre, is one of the pictures which is rarely seen without spectators in front of it, and especially young artists. There are several other works of the same class which have their charm for us, and which are enough to make his admirers regret that he ever left Ornans to take a part in the political outbreaks of Paris.

Courbet endeavoured "to hold the mirror up to nature," and to show poor folks of his time as they were. Truth was, in his opinion, the quality which should be most desired by a painter. His peasants are unlike those of Millet, and, it may be allowed, are less desirable as neighbours. One reason for the difference may be that Millet had gone through a long course of painting in Delaroche's studio, and was made to feel the connection between beauty and art. Courbet was mainly self-taught, and indeed was not likely to submit to the criticism of any master, and especially of an Academician. He was successful in rendering what he saw, but it is to be doubted whether in the majority of his works he was able to impart that idiosyncrasy to them which is generally delightful. In Courbet's peasant scenes we are struck with the oddness of the men, and especially of their costumes. But it is only in his forest scenes that we are confident the artist gazed on what he was to depict with a loving eye.

It has been found necessary to postpone the opening of the Exhibition of Modern Illustration in the Indian Section (Imperial Institute Road) of the Victoria and Albert Museum from Monday next until Monday, the 14th inst. The private view will consequently take place on Saturday, January 12, instead of to-morrow, as previously announced. The Exhibition will be open free every day—on Mondays, Tuesdays and Saturdays from 10 A.M. till 10 P.M.; on Wednesdays, Thursdays and Fridays from 10 A.M. till 4 P.M.; and on Sundays from 2 P.M. till dusk. The Exhibition will remain open about three months.

THE VILLA OF TIBERIUS, CAPRI.*

THE immense sums which are given in auction-rooms for portraits by people who are without the least family relationship with the subjects may appear to many censors of life as one of the delusions of weak human nature. But if it be a delusion it was exhibited in various forms from a very early period. Knowing what was required, the oldest historians have endeavoured by means of words to produce representations which will serve as substitutes for the work of the painter. In all ages, says Tacitus, it was accepted as a law to transmit to posterity the actions and character of illustrious men. History can be expressed by means of biographies, and a biography is incomplete which does not describe character; in that way, and perhaps in it alone, the writer is able to excel the painter and sculptor. It is not only men and women who have lived that are so portrayed. Character drawing is so fascinating, imaginary beings are utilised for that purpose. What is stranger is that the novelist's creations have as much or more interest for us as the great people of the historians, whose portraits and characters are supposed to be based on infallible evidence.

There are, of course, wide differences between the methods of writers who attempt to portray human character, and the same subject according to the treatment will present discrepancies which it is difficult to reconcile. One of the beings of whom several portraitures were prepared was the Emperor Tiberius. If we read the account of him which is given by Suetonius, he would appear to have been such a man as the conditions of the time would have produced. He was framed for a military life. We hear of his robust figure, his large shoulders, his left hand, which was more agile than his right, his finger by which he was able to crush an unripe apple. His face was said to be handsome although not free from pimples. He had large eyes, and when he awoke in the night he was able to see as clearly as in daylight for a short time. He was indifferent to physicians, and during his reign did not employ one, but doctored himself. He was a fatalist, and studied astrology. He was afraid when there was thunder, and, believing that the laurel was never struck, he wore a crown of the leaves during storms. He studied Greek, and endeavoured to imitate Euphorion, Rhianus and Parthenius. He was accustomed to puzzle scholars by such questions as, "Who was the mother of Hecuba?" "By what name was Achilles known when he was at the court of Lycomedes in the dress of a girl?" "What were the songs of the Sirens?" But he was careful to avoid speaking Greek in public, and having once used the word "monopoly" he asked pardon of the Senate for the strange expression, and in a decree he struck out the Greek phrase for ornament in relief in order to substitute a roundabout Latin expression. He used to seek retirement occasionally, but Suetonius suggests it was owing to domestic unhappiness, because he could not endure the presence of a wife he was unable to accuse or repudiate out of respect for her father. In his retirement he was suspected of treason, and he asked, like an honest man, that a guard should be placed near him to observe his words and actions. As a general he acted with great skill in many wars, but showed no haste for the inevitable triumph. As became a stoic, he lived in a simple way during the campaigns, took his meals in the open air and usually slept on the ground. But he was a severe disciplinarian, and revived disused punishments for neglect of duty. When he was made emperor he acted with the utmost moderation, especially in dealing with conspirators. He refused the usual honours of temples, statues and images. He was in fact indifferent to all flattery. He was insensible to libels, maintaining that in a free city the tongues of men should be free. He introduced many economical reforms, and set the example in his own household of avoiding the luxury which was general. In all this Suetonius depicts a Roman who tried as far as possible to cope with the dangers of the time. Then we are suddenly presented with a Tiberius of a different nature. We are told not only of cruelty, with noble Romans

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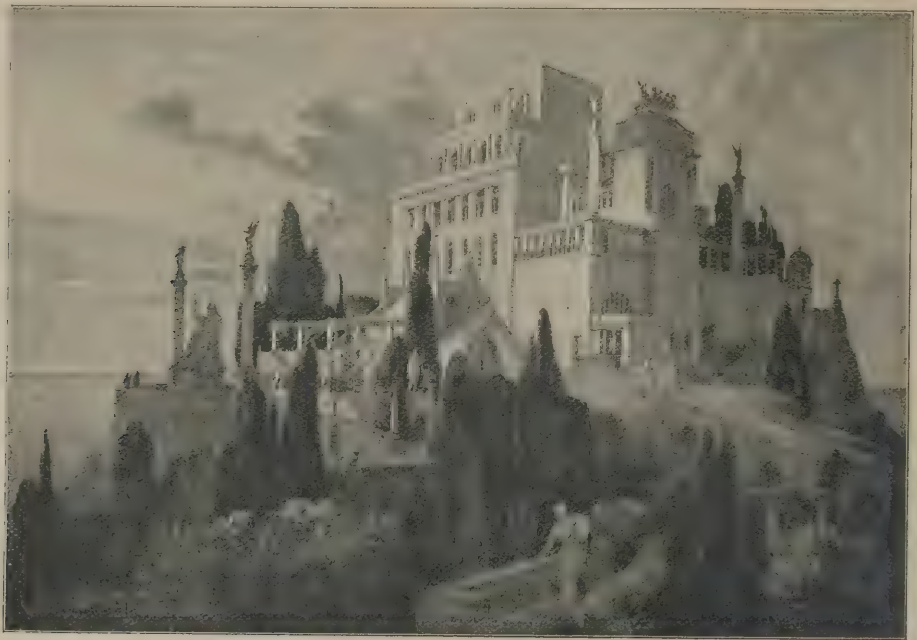
* *Tiberius's Villa and other Roman Buildings on the Isle of Capri.* Expounded and illustrated by C. Weichardt. Translated by Harry Brett. London: Th. Wohlleben. Leipzig: K. F. Koehler.

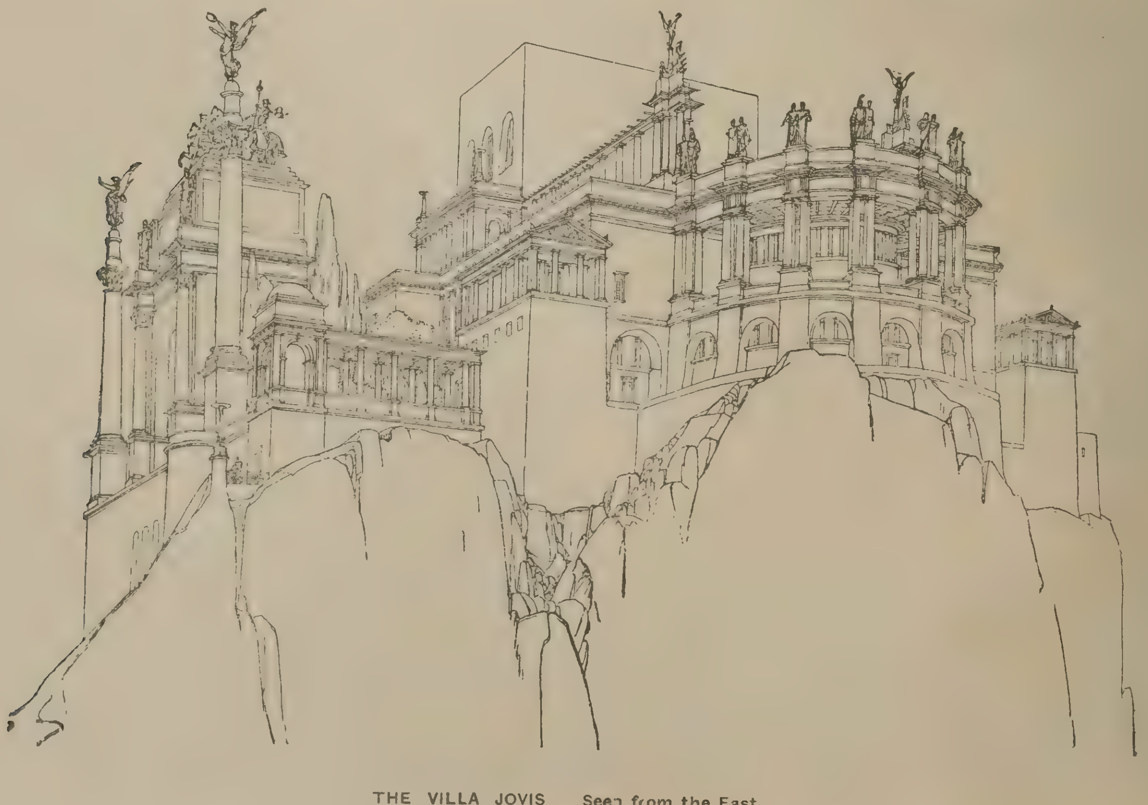


THE VILLA JOVIS. From the South-West

as victims, but of wallowing in vice on the island of Capri, which he preferred because he believed it to be inaccessible. In his old age he is said to have been more cruel, and indifferent to the welfare of the empire. It is difficult to explain so marked a difference on psychological principles. The historian perhaps exaggerates the vices to which TIBERIUS was a victim.

The TIBERIUS of TACITUS is a being of another class, for he might be summed up in CARLYLE'S phrase as an AHRIMAN of badness, who was false from his cradle to his death-bed. In drawing him TACITUS shows a power in character-drawing which was not possessed by LA BRUYÈRE, SAINT-SIMON or CLARENDON. "It were great simplicity," says MONTAIGNE, "for a man to suffer himself to be misled either by the looks or words of him that outwardly professeth what he is not inwardly, as did TIBERIUS," and that simplicity was not a weakness of TACITUS. What he describes are the mental operations of the emperor. The seclusion of the most private room in Rome or Capri was not secure against the inquisitorial scrutiny of the historian. The only drawback to the amazing scrutiny of the microscopic investigation is that TACITUS never saw TIBERIUS. The two lived in ages more than half a century apart. We are tempted, therefore, to conclude that the historian relied mainly on his imagination or on hearsay. He may have heard that the life of TIBERIUS was one long hypocrisy, and accordingly the simplest act was converted into chicane. We are to suppose that if TIBERIUS spoke kindly to a man he had arranged for his murder, and everyday acts were intended to conceal ulterior purposes. Even when his life was ending we are expected to believe his dissimulation was as strong as ever.

It is allowable to utilise the system of TACITUS against

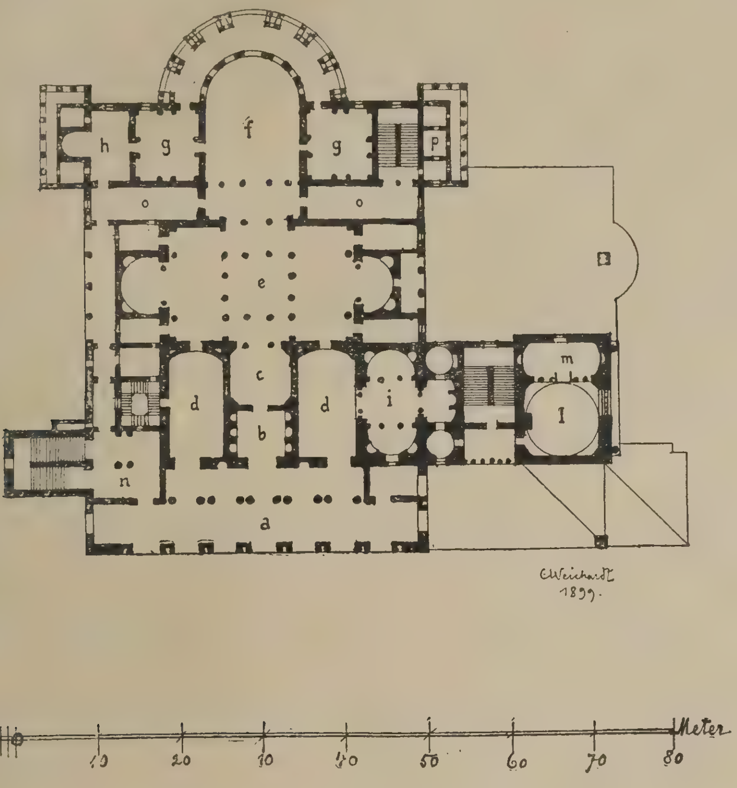


THE VILLA JOVIS Seen from the East.

himself, and when we find there is so little evidence for a vast number of crimes we are inclined to believe that Voltaire had grounds when he affirmed that Tacitus was prone to lying and malignity. Bossuet's description of him as the gravest of historians, and Racine's as the greatest painter of antiquity, do not necessarily mean that Tacitus was always correct in his portraiture. We have, in fact, no means of deciding the question, and the character of Tiberius must always, in spite of the number of men who have attempted to describe it, remain a mystery. The probability is that he was a man who, having attained the highest power in the world with the obligation to exercise it, discovered that everything around him, including his own government, was weary, stale, flat and unprofitable. He might have wished to be a philosopher and to discourse all day long with Greeks, but destiny was against him. He was too much of a stoic to make his quietus with a bare bodkin, but he could not resist escaping from Rome and seeking a society that, if debased, made no show either of virtue, patriotism, or of loyalty to him.

of the stonemasons, the shouts of the load-drawing labourers should have been allowed to disturb the much-needed calm and quiet of the island?"

It is impossible to decide with any certainty what ruins belong to buildings erected by Tiberius, and to distinguish them from those erected by his predecessor. It is said that Tiberius built twelve palaces on elevated sites and dedicated them to as many deities. Those on the summit of Lo Capo have long been assumed as the remains of the Villa Jovis, which, from its title, must have been the most important of all. Near it are seen foundations which are believed to be part of the pharos, or lighthouse, which, according to tradition, was overthrown by an earthquake a few days before the death of the emperor. Although assumed to be the palace of Tiberius, Herr Weichardt believes the building was the work of Augustus, but was altered by Tiberius to suit his special purposes. One reason for this is that in the arrangements of the plan he finds a resemblance with those found in the palace of Augustus on the Palatine Hill at Rome. We give Herr Weichardt's plan of the Capri palace, as well as two views which may indicate the appearance of the building according to the author's conclusions. It will be observed that a part forms a plain but substantial block which stands much above the higher storeys of the buildings. The following explanation is given of its purpose:—



a. Open Hall.

b. Vestibule.

c. Tablinum (Audience Hall).

d. Private Rooms of the Emperor.

e. Peristyle (Inner Hall).

f. Triclinium (Dining Hall).

g. h. Private Apartments of the Emperor.

i. Lararium (Palace Chapel).

l. m. Baths.

n. Vestibule of the Prætorians.

o. Corridor.

p. Chambers of Court Officials.

THE VILLA JOVIS. Plan of First Storey (restored).

We have written so much about the character of Tiberius, for unless something is known about it, or rather about the various interpretations of it, his buildings which Herr Weichardt describes will not be appreciated. First it should be remembered that Tiberius did not discover Capri. The Emperor Augustus obtained possession of it by exchange for Ischia, and the last years of his life were spent there. Although credited with a passion for building, Augustus is described as disliking country houses, which were too expensive, and one which was constructed for his granddaughter was on that account destroyed by his orders. But he wished to have promenades and gardens, especially when adorned with natural curiosities. At Capri he must have obtained some mammoth fossils, which were believed to be the bones of giants or the arms of ancient heroes, for in no other way can the words of Suetonius be understood. Herr Weichardt believes that the palatial buildings of which the remains are found on the site of the present Certosa cloisters, and the majority of the villas by the sea and at the mid-altitude of the island, were erected by Augustus. Knowing what building involves, he pertinently asks:—"Who can feel disposed to assume that the rest-needing Tiberius turned the island into a vast building area, with all the confusion attendant thereon; that he should have converted the harbour into a landing-place for ships laden with building materials, and that the whole of the noisy activity consequent on building operations, the hammering

> Tiberius was superstitious and thoroughly convinced of his ability to read his fate from the stars. He therefore always had in attendance on him his friend, the Greek astronomer Thrasyllus, with whom on clear nights he followed the motions of the stars. One must assume also that at his principal palace on Capri he had an elevated observatory standing conveniently near to his dormitory and allowing of a wide unbroken view all round; it is, moreover, highly probable that, in consequence of his morbid fear of assassination, such sleeping apartment was as much isolated as possible. For these, so to say, intimate reasons, which correspond to a nicety with the character and personal habits of the emperor, and not for these alone, but also for the more tangible reason that the walls under the apartments marked *b*, *c and d d* were exceptionally stout, one is justified in assuming that above the aforesaid apartments stood a structure of one or perhaps two storeys higher, and that the same were connected by a private staircase. . . . The walls still remaining on the ground-floor running from west to east, to which reference is now made, and which one supported the superstructure, run from 1·70 to 1·90 mètres in thickness, whereas those running parallel alongside of them are only 1·20 mètres thick.

Herr Weichardt's book is the result of holidays spent on the island of Capri, and it is throughout inspired by a spirit of enjoyment. It is a delightful task to attempt to restore palaces and towers which are more impressive than any of the keeps which were erected on almost inaccessible cliffs in various parts of the coast of Great Britain. Turner would have been delighted to have drawn such precipitous scenery and to have exercised his imagination on the buildings. How far Herr Weichardt's restoration resembles the original building must be left to individual speculation. There have been palaces as grand as any represented in the pages, and if Augustus was compelled, through motives of economy, to subdue his passion for building in Rome, who can say whether he did not yield to it in Capri without any fear of a senate? There is, however, nothing to show from the character of the remains whether Tiberius, when he inherited the buildings, made a good or evil use of them. Some, like the Villa Jovis, would be adapted to serve as the retreat of an imperial Timon who had become misanthropic, and who enjoyed the contemplation of an abject world from a pinnacle, as if he were above it in spirit as in body. No philosopher could choose a more desirable place of seclusion, but none of the imperial occupants of the lofty observatories have left any memorial of their speculations while in Capri. The illustrations of the island are most creditable to the artist's skill, and the borders and head-pieces, which were prepared by Herr Weichardt's pupils in the Royal Academy of Arts, Leipzig, are excellent adaptations of Greek and Roman ornament.

THE WESTMINSTER CATHEDRAL.

A SUPPLEMENT to the *Tablet* describes the present state of the Cathedral, Westminster, which is in course of erection under the direction of Mr. F. J. Bentley, and indicates some of the works which will be required :—

Externally, with the exception of the upper part of the campanile, the turrets of the great western staircases, and the roofing of the side chapels, the structure is practically complete. The campanile has been carried up to a height of 182 feet, but 91 feet more of brickwork, stonework and the corona of leadwork remain to be done; bringing up its total altitude to 273 feet. Most of the scaffolding, which so long hid the building from the public gaze, is now removed; and in the spring, when the frosts leave us, the finishing-off of the pointing of the walls and the cleaning of the stonework will allow what is still standing to be cleared away.

The terra-cotta lattices of the great semicircular windows of the sanctuary and west end are in their places, and those of the clerestory are being proceeded with. Furthermore, the four great domes of the nave and sanctuary and the half-dome of the choir have left the hands of the workmen and now protect the interior from rain and weather. This can also be said of the roofs of the Blessed Sacrament and lady chapels, of the transepts, aisles, baptistery and partly of the chapels in the nave.

Now that the roofing of the principal portion of the church is completed, it may interest many to ascend by one of the staircases at the outer aisles of the sanctuary to the dome levels and inspect its vastness—there, perhaps, a better idea of the size of the church is gained than from any other point. The dwarfing of large buildings in the neighbourhood is an excellent and a certain standard of comparison. An inspection of the galleries and passages on the upper levels will also be of interest to those who have time to make a survey of these parts.

The composition of the great western doorway in Ashley Place, with its lateral arcades and colonnades connecting the circular staircases which lead to the gallery over it, has taken its full form, and only requires the insertion of the mosaic (27 feet across) in the tympanum and the carving of the medallions of the sainted Archbishops of Canterbury, enclosed within wreaths and suspended to the columns of the colonnade already mentioned. The great arch enclosing the mosaic tympanum is probably the largest arch over any church door in the world. Under this mosaic is the episcopal door, and on either side are doors for the laity, leading through a vestibule into the narthex. These doors are to be executed in teak, and it is hoped that before the Cathedral is opened they will be covered with bronze plates like the famous doors of St. Mark's, Venice.

From the street pavement to the nave level there is an ascent of five steps. From Ambrosden Avenue, and central with the narthex and baptistery, is the entrance of second importance and leading into the church through a spacious porch. The tympanum of the arch here is likewise to be filled with mosaic, but the subject has not yet been decided upon. From Ambrosden Avenue there is a third entrance, which leads to the north transept; this is of minor importance, but it will be much used on week-days during the ordinary services. It may be remarked that over each door there will be either the Sign of the Cross or the Sacred Monogram.

Proceeding eastward, externally, we reach the apse, which now shows itself as it will for generations to come. Two bridges here already give access, one from the monastery to the monks' choir, the other from Archbishop's House to the principal sacristy, which, with the working sacristy below, needs only the work of a plasterer for its completion.

Entering from the lobby of the great door into the narthex the whole scheme of lighting is now evident, although the top-lights of several roofless chapels still interfere with the shadows and the vistas, which will become more telling when their vaults are turned and these top-lights blocked out. The nave has gained enormously in apparent height since the closing in of the aisles and some of the chapels. The effect promises to be a great success. The westernmost dome is in strong light, which streams through a large lunette window immediately on a line with the pendentives. The dome of the next bay is deeper in mysterious shadow; the third is still more so; while the sanctuary dome is brilliantly lighted by the twelve windows round its drum, so that our attention is led up to and powerfully focussed upon the high altar, beneath its marble baldachino, necessary to give it emphasis and dignity.

The various levels of the floor of the sanctuary are now being formed, and during the course of the first month of the new year, they will be so far complete as to enable the visitor to judge of their effects. Beyond the sanctuary is the monks' choir, with its apsidal termination. Here the rather strong light admitted by six windows is necessary to enable the monks to sing their daily office. Perhaps the light may be found too strong; if so, it can readily be modified to suit their requirements and enhance the general effect.

Below the choir is St Peter's crypt, supported by six superb red Norwegian granite columns, each of a single block. The carved caps of these are of pale grey marble, each varied in pattern. The crypt is complete as far as may be, unless some generous donor comes forward to case the walls with marble and line its groining with mosaic. It should be here stated that the altar and the marble pavement have still to be provided. A bronze statue of the Saint, similar to that in St. Peter's in Rome, will be placed here to add interest and devotion to this chapel.

Returning to the ground level, we next visit the chapels of the Blessed Sacrament and of Our Lady, lateral with the sanctuary and separated from it by their respective aisles. These, like the crypt, are ready for their altars and incrustations of marble and mosaic. The columns dividing these aisles from the sanctuary are of jasper and Norwegian marble (known as "midnight sun") of very beautiful colour and figure, and are now being fixed. Their bases are of Derbyshire fossil marble; the caps are of the character of those hereinafter described for the nave. They carry the vaulting of the aisles, which forms a gallery, in which the organ will be placed and where space will be provided for the lay choir.

The twenty-nine marble columns in the nave and transepts, which support the vaulting of the aisles on either side of the nave and the arches of the transepts, are the gifts of various benefactors, and are to be inscribed as votive offerings. Verde Antico, Greek and Swiss Cipollino, Languedoc, Italian Brescia, grey granite from Norway, also red granite (which has much the character of the ancient porphyry), are the various marbles of which these beautiful monoliths are composed. Each stands on a moulded base of Norwegian granite, and terminates in an elaborately carved cap of white Carrara marble, among all of which, as in the crypt, there are no duplicates in pattern. It may be recorded that in working these columns three monoliths, two of Cipollino and one of Brescia, have cracked in the process, and were, of course, rejected, much to the regret of the architect, as the Cipollino were very fine in colour and markings. It has been decided to leave the carving of the Carrara caps unpolished, to avoid giving them a porcelain-like appearance.

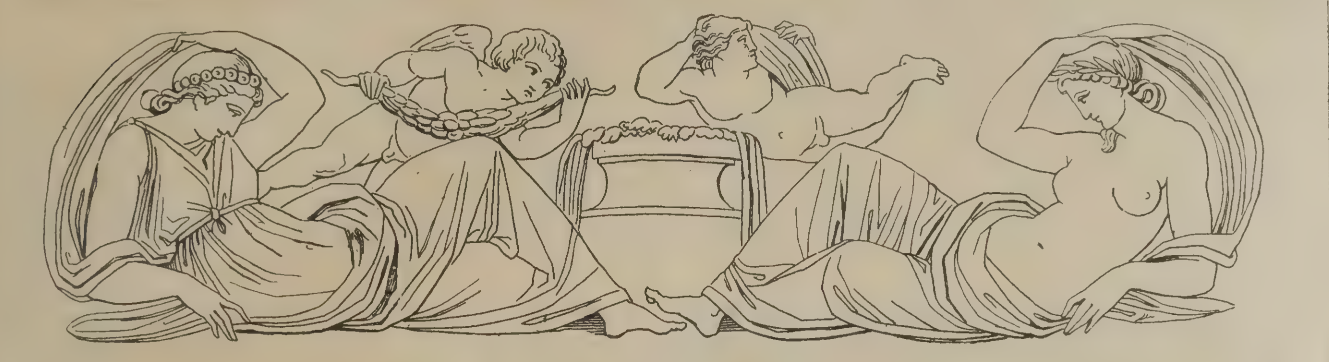
The chapel of St. Gregory and St. Augustine (the gift of Lord and Lady Brampton) in the south aisle is complete in carcase and only awaits its internal enrichments. The chapel of St. Joseph in the north aisle is in like condition, while there are yet two more chapels complete, one in each aisle, but their dedications have not yet been decided upon.

It is hoped that early in February next the whole of the peregrination on the gallery level will be available for its intended purpose, as well as the four staircases, two east and two west, which give access to it.

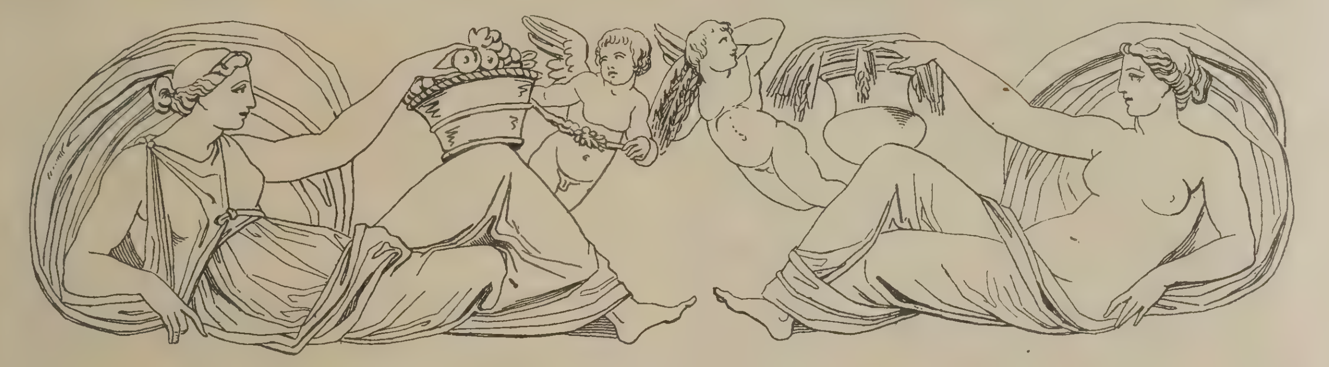
As our readers know, the surface of the interior, with the exception of such chapels as have been provided for by generous benefactors, will at the opening of the Cathedral be devoid, as was St. Peter's in Rome, of all enrichment. The walls will be merely faced with common brick, and the domes and vaulting will be left in rough concrete.

THE SEASONS.

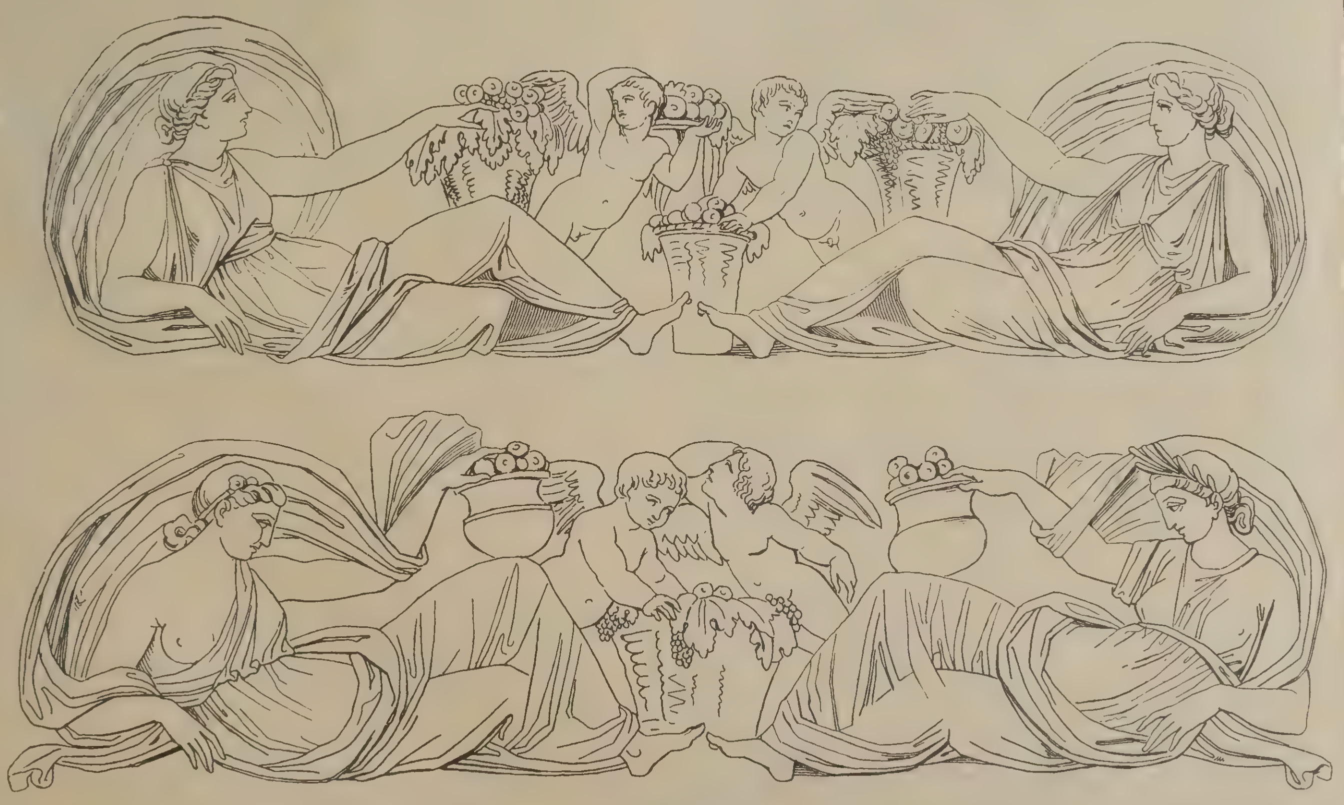
AMONG the Greek and Roman works in the Villa Borghese are the bas-reliefs representing the Seasons, which we illustrate. Like the majority of antique works, their history is unknown, but they are interesting as examples of symmetrical treatment and as applications of the same elements without producing monotony. It will be observed that the designs are made up of two female figures and two amorini with baskets, vases and fruit. The large figures are shown leaning on one arm, and in three of the reliefs the other arm is extended. Part of the drapery is flying. The Cupids have a little more variety, for they are not all flying, and perform their duty as attendants in different ways. From the similarity between the Seasons they were well adapted to the decoration of one hall or chamber, and they are still not without suggestiveness for architectural sculptors.



SPRING.



SUMMER.



AUTUMN.

NOTES AND COMMENTS.

IT is an old saying, "When poverty comes in at the door, love flies out of the window," and unhappily it is now applicable to the Société des Artistes Français. The Society, as our readers know, is heavily in debt, owing to the generous action of building a temporary salon last year. A majority of the members approved of the expenditure, but with the prospect of another large outlay for altering the palace which is assigned to this year's exhibition dissensions have broken out among the artists. There are rumours of the formation of a new society or societies, and no doubt it is tempting to start afresh without any encumbrances, which would diminish the profits of an exhibition. Some artists believe that the present Société des Artistes Français is so numerous, there is not much credit in belonging to it. One of the projects put forth is for the foundation of a society with no more than 250 members. It is assumed the foremost painters, sculptors, architects, engravers and decorators would at once come forward and join the new society; then if there were any vacancies they would be filled by those about whose position there could be no dispute. The number would be sufficiently large to remove the liability to despotism which is unavoidable when there are only a few members on a council. It would hardly be possible to carry out the arrangements before April; it is therefore to be hoped that the storms will be allayed in time to allow of the usual Salon exhibition.

ALTHOUGH the late WILLIAM POLE was for many years one of the best known men among engineers in Westminster, it would be difficult to discover a structure which is generally accepted as his work. He could, however, have claimed credit for a great many, for he prepared designs which were accepted as the work of other men Yet nobody could consider him as a disappointed engineer, and we doubt if a thought of the kind ever passed through his mind. Just as in law there are able and well-paid barristers who never enter the Courts, WILLIAM POLE was essentially an office engineer, who was regarded by many as an oracle, and whose standing among the highest in the profession no one ventured to dispute. No other engineer in Great George Street could, with so much ease, discharge the duties of secretary to a Royal Commission connected with engineering, nor in Whitehall or in Pall Mall could an officer be found who would perform the duties so efficiently. It was remarkable how varied were his indoor duties. Nearly sixty years ago he was under the old East India Company teaching engineering at Bombay. Some years afterwards he was professor of engineering in University College, London. He was hon. secretary to the Institute of Civil Engineers for several sessions. He was consulting engineer on railways to the Japanese Government. He wrote books, articles and reports, and made designs for almost every kind of structure. In the evenings he applied his scientific knowledge to whist, and it was an honour to take a hand with him; or he joined in some concert as a performer. He gained renown among musicians as an organist, and, indeed, from his versatility he might be considered as a combination of several professors. Specialists in engineering used to maintain there were three or four WILLIAM POLES, for it was impossible that a man who knew so much about iron bridges could be an authority on the steam-engine and an examiner in music. Westminster will miss his handsome presence, and in the Institution there will be a loss, for he was a chronicle which united past and present. WILLIAM POLE was a native of Birmingham, where he was born in 1813.

THE London and Lancashire Fire Insurance Company have just issued a series of electrical installation rules, which are models of clear and succinct instruction. There is no difficulty owing to the excellent arrangement and the complete index. It is notified that the rules are intended to apply to installations where the pressure does not exceed 250 volts for lighting or heating purposes, or 500 volts for power purposes. In cases, however, where the pressure required is greater than the foregoing voltages, or where from the nature of the circumstances it is found impossible to follow these rules, the company desire that they should be notified before the work is commenced, so that its electrical expert may consider such cases with a view to advising as to the special requirements necessary to reduce the fire hazard to a minimum. One recommendation is that clients desiring to introduce electrical energy for lighting, heating or power should remember the danger of employing any but thoroughly reliable contractors for the work. The main sources of fire hazard in elecrical installations pointed out are—(*a*) Inferior materials and workmanship, especially in regard to joints, fittings and connections; (*b*) conductors of inadequate size and conductivity; (*c*) perishable and inferior insulating material; (*d*) moisture, dust and dirt; (*e*) overheating due to loose connections; (*f*) straying currents due to conductors coming into contact with earthed metal-work. And the contractor should be instructed to bear these important features prominently in mind during the work of fitting up. The rules are of the kind we should expect from a company having the standing of the London and Lancashire, and every architect should possess a copy.

THE paper on "A New System of Practical Perspective for Artists and Architects," by Cav. SETTIMIO GIAMPIETRI, which appeared lately in the Journal of the Institute of Architects, has been issued as a separate publication. The diagrams are drawn with much neatness, and, as in all books of perspective, the figures become convincing. Signor GIAMPIETRI's system may be new, but we are unable to discover any advantages which it conveys. It is not more expeditious or more certain than those commonly employed in architects' offices in England. A student who obtained what is called a second-grade certificate should be able to work out all the problems. The author claims that "there is no need of either plan or elevation of the object to be drawn, and the whole operation can be worked out within the space of the paper or canvas, if to the right and left of the canvas two laths, or similar appliance, be fixed at the height of the horizontal line to carry those points to which certain given lines tend." But the adjustment of the laths will take as much time as the preparation of an ordinary plan. With us time is money, and perspectives are somehow always to be got out in a hurry. In Italy there is leisure for all things. The difference between practice in the two countries is suggested by Signor GIAMPIETRI's elaborate construction.

STUDENTS of engineering construction are indebted to Mr. ERNEST H. ESSEX, of Leyton, for his book on "The Theory of Engineering Construction" (the St. Bride's Press, Limited). He has selected from the examination papers of the Institution of Civil Engineers such questions as appeared to be most important in mechanics, theory of structures, strength and elasticity of materials, and geodesy. To them he has given answers which are fully explanatory, and form a commentary upon the questions. The diagrams which had to be constructed are represented on a large scale. Without professing to be an abstract of engineering science, the volume contains an exposition of the most important problems. The book will have its use for students who are preparing for examinations elsewhere, and to go through it will be found an excellent exercise for all who have to follow construction as a business.

ILLUSTRATIONS.

THE ARTIST WITH THE CINCTURE.

CREWE HALL: THE CARVED PARLOUR.—THE LIBRARY.

ST. MATTHEW'S, CHAPEL ALLERTON, NEAR LEEDS: EXTERIOR FROM SOUTH-EAST.

THE CROFT, TOTTERIDGE, FROM SOUTH-EAST.

CATHEDRAL SERIES.—YORK MINSTER: GENERAL VIEW OF EXTERIOR FROM SOUTH-EAST.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

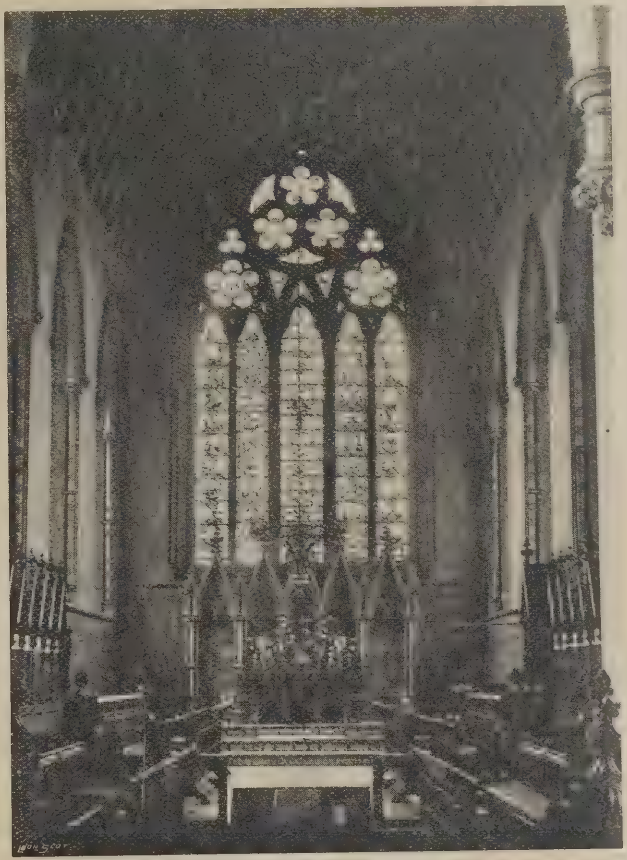
Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

(*Continued from page* 395, vol. lxiv.)

The Works of Ward & Nixon.

Among the glass painters who enjoyed considerable reputation during the infancy of the Gothic Revival—*i.e.* shortly after the formation of the architectural societies at Oxford and Cambridge—Ward & Nixon* are deserving of our attention for a short time. Certain of their works date back into that dark era of ecclesiastical art, the thirties of the nineteenth century, but it will be sufficiently early for us to take our stand in the year 1842, when, a brighter state of things having set in with regard to Church matters, both in a moral and artistic sense, they were commissioned to fill the east window of St. Giles, Camberwell, which at that time was rising from the designs of Scott and Moffatt on the site of the old parish church, which, styled by a writer in the *Gentleman's Magazine* of 1787, "a very agreeable Gothic structure," had been burnt down on the night of Sunday, February 7, 1841.

St. Giles, Camberwell. (*Sir G. G. Scott, Architect*, 1841–44.)



St. Giles, Camberwell. The Chancel.

Ward & Nixon's glass in this east window of Camberwell church—modelled, as regards its tracery, on that in the chapter-house of York Minster—owes not a little of its excellent effect to the good taste of two members of the church-building committee who drew up the scheme for its iconography, and if open to some objection in the style of drawing must, together with the glass executed almost contemporaneously by Willement at Littlemore, near Oxford, in the three eastern triplets of the Temple Church, and in the apse of Christ Church, Westminster, be considered to have caught the style and tone of ancient work in a considerable degree. At Camberwell the subjects, treated in very small groups within medallions, are drawn from Old and New Testament history, five of the principal events in Our Lord's life occupying the somewhat larger medallions in the central light; but consequent upon the compartments having been fixed at different times as funds permitted, the tinctures in the two outer ones do not correspond, blue preponderating in one and red in the other. This, however, is not unpleasantly obtrusive, and although the employment of a bolder and later style of iconography in a window terminating a church of such length as St Giles would have been preferable, the adoption of the mosaic treatment in Middle Pointed work is not altogether unprecedented, besides which it was perhaps the safest course to pursue, when we consider the state of the art at the period the work was executed.*

Strikingly picturesque and beautiful is the ensemble of St. Giles, Camberwell, with its tower and spire—which, by the way, the writer can never view without recalling the opening line of Keats's "Endymion"—rising from the crux of its neat and compact plan. More than half a century has elapsed since the consecration of St. Giles, Camberwell, yet at the risk of causing invidiousness it may be remarked that neither its steeple nor the almost contemporary one at St. Matthew's, City Road, by the same hand, has been equalled for symmetry and grace.*

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* Musicians will be interested to know that No. 67 Frith Street, Soho Square, the premises occupied by this old and respected firm of glass painters, was from 1829 to 1834 the home of the Novello family. Here it was that Vincent Novello's eldest son Alfred first commenced business. "A very modest beginning in appearance," Mrs. Cowden Clarke, in her "Life and Labours of Vincent Novello," tells us—"a couple of parlour windows and a glass door with a few title-pages bearing composers' names of sterling merit and Vincent Novello's as editor." Increase of business necessitated the removal of Alfred Novello to Dean Street in 1834, in which year, or very shortly after, Mr. Nixon laid the foundations of this firm, which, after passing through various phases and changes of style, continues to hold its own against younger competitors.

* In the west window of St. Giles there is some old glass brought by the Vicar of Camberwell at the time of the erection of the present church from Germany. Ward & Nixon worked it up with some glass of their own, and the effect, though simply a pattern window, is harmonious and pleasing. The two-light window in the north transept—an early specimen of Messrs. Morris, Marshall & Co.'s work—is interesting, not only on account of the introduction into it of canopy work, but from the fact that one of the effigies therein represented—that of St. Paul—was designed by the late William Morris himself. This glass was inserted in 1864, three years after the establishment of the artist firm.

St. Giles, Camberwell, was not Scott's first church, but it is one of the earliest, if not the earliest, in which the principles laid down by Pugin and the Cambridge Camden Society were enunciated. Before this he had built several churches in different parts of the country, *i.e* at Birmingham, Lincoln, Shaftesbury, Hanwell, Turnham Green, Bridlington and Norbiton, but they were little, if anything, better than those Blore and others were erecting at the same time for the Commissioners of the Metropolis Churches Scheme. Speaking of these early efforts in his "Recollections," Sir Gilbert laments that he had not known the founders of the Cambridge Camden Society at the time. "As it was," he continues, "no idea of ecclesiastical arrangement or ritual propriety had then even crossed my mind. Unfortunately, everything I did at that time fell into the wholesale form; and before I had time to discover the defects of my first design, its general form and its radical errors were repeated in no less than six other churches [those above mentioned], and which followed in such rapid succession as to have no time for improvement, all being planned, I fancy, in 1839, or early in the succeeding year. The designs for these churches were by no means similar, but they all agreed in two points—the use of a transept of the minor kind [which the late G. Gilbert Scott, F.S.A, opines was an old English tradition derived from Saxon times, and prevalent in England and Ireland all through the Middle Ages], which happened to be suggested to me by those at Pinner and Harrow, and the absence of any regular and proper chancel, my grave idea being that this feature was obsolete. They all agreed, too, in the meagreness of their construction, in the contemptible character of their fittings, in most of them being begalleried to the very eyes, and in the use of plaster for internal mouldings, even for the pillars. This latter manner had been forced upon me, for at first I aimed at avoiding it, but the cheap church rage overcame me, and as I had not then awaked to the viciousness of shams, I was unconscious of the abyss into which I had fallen. These days of abject degradation only lasted for about two years or more. But, alas! what a mass of horrors was perpetrated during that short interval." The former nave of St. Saviour's, Southwark, for example.

The adoption of that most expressive but (to our ritual) unsuitable plan, the cruciform one, with the deep transepts and aisleless chancel, was not felicitous. Still, in spite of the drawbacks resulting therefrom, St. Giles must be considered a very wonderful church indeed, when we reflect that it was raised in the lifetime of many who had witnessed the erection of such Grecian frigidities and Gothic absurdities of the "Million" Act as St. Pancras, All Souls, Langham Place, and the churches at Haggerstone and Somers Town.

The Vicar of Camberwell at the time of the rebuilding of St. Giles after the conflagration of 1841 was Rev. J. G. Storie, and it is to his sound sense and refined taste that we owe this, perhaps the most remarkable church built in England after the ancient models since the Revival.

"The pains which I took over this church," Sir G. G. Scott tells us, in his "Recollections," "were only equalled by the terror with which I attended the meetings of the committee, though I think they nearly all continued my very good friends, and were very proud of their building."

"Mr. Storie," Sir Gilbert goes on to relate, "was a remarkable person. He was a man of great talent and personal and moral prowess—the most masterly hand at coping with a turbulent parish vestry I ever saw. His only fault was that he was a clergyman instead of, as nature intended, a soldier or a barrister; but this was the fault of his parents or guardians, not his own. He was a thorough man of the world, and immersed in the society of men of his own taste. I greatly admired, and to a certain extent respected, while I feared him, for he was a man whose very look would almost make me tremble when his wrath was stirred. He was determined to have a good church, and so far as his day permitted he got it, and, after all the little rubs we had, I view his memory with respect and friendship. His expensive habits led him to sell the advowson, which was his own, with a covenant for immediate resignation. The sale was effected and the covenant performed before the purchase-money was paid, and those who wish to know the rest may inquire for themselves. However this may be, poor Mr. Storie was reduced to poverty from which he never recovered."

With the exception perhaps of sundry small ritual ameliorations in and some polychromatic decoration of the chancel and sanctuary, the general aspect of St. Giles, Camberwell interiorly is pretty much the same as when it was opened fifty-six years ago (November 22, 1844). The same galleries, with their feeble woodwork and gaunt iron pillars, still choke the aisles, and appropriated sittings for the "genteel" folks, with a row of rickety, comfortless benches for the Church's special and dearest charge, the poor, the nave. The writer cannot forbear remarking upon the apparently scanty provision made for missionary work in this, the mother church of a vast and important parish like Camberwell, which so painfully impressed itself on his mind during a recent visit to St. Giles for the purpose of investigating its painted glass. It was impossible to quit the precincts of this beautiful edifice without the conviction that a little of the loving care that is so visibly bestowed upon such scantily-endowed churches in its vicinity as St. Jude's, Peckham; St. John Divine, Vassall Road; and St. Agnes, Kennington Park, would make Camberwell parish church a very different place. *Apropos* of Ward & Nixon's glass, the visitor to this south-eastern suburb of the Metropolis interested in the progress made by Gothic art in England during the ten years subsequent to the erection of St. Giles, will do well on leaving that church to proceed a short distance along the main road in an easterly direction, and become acquainted with the exuberantly beautiful chancel, which, in that phase of Italian Romanesque as it was about to pass into the Pointed, the same architect (as a compromise and in anticipation of recasting, if not entirely reconstructing, the remaining portion) gave to Camden Church—one of a number of religious edifices which, embodying every architectural and ritual shortcoming, were built at the close of the last century, when the beautiful symbolism of Wren, Gibbs and Flitcroft had disappeared and nothing was gained in compensation.

The late John Ruskin, at that time resident in the neighbourhood, and an attendant at Camden Church during the successive incumbencies of Melvill (afterwards Canon of St. Paul's), and Daniel Moore (under whom the new chancel was erected), was of no little assistance to Scott in this work, from his great knowledge of and love for the Gothic of Northern Italy, and which latter he had uttered but a few years before in his "Stones of Venice," while to the same great master-eye we owe not a little of the excellence of Ward's* glass in the windows of the apse.

Comprising as it does a number of small groups from the Life of Christ treated medallion-wise, this glass, from the clearness and excellence of its drawing and the judgment used in the admixture of its tinctures, does not seem to desiderate white. The dominant hue, following Early Gothic precedent, is blue.

The work in either side window is not quite so felicitous as a whole, but it harmonises well with that in the central one, and the trio, viewed from the west end of the church, has a pleasing effect, while Clayton & Bell's work, inserted at a later period in the windows of the chancel, is of great assistance in imparting length to that member. Until its advent Sir Gilbert Scott had to depend for this effect upon the recession of the stone arches with which—on the motif of St. Fermor at Verona—he spanned his chancel. Composed of two hues of stone in alternate layers, these transverse arches at Camden Church spring from cylindrical attached columns, with those boldly Corinthianising capitals which were already becoming a mannerism with their architect.* Two pairs of these columns are plain, but that at the entrance to the apse has a graceful twining pattern, while the arch which they support is richly embossed.

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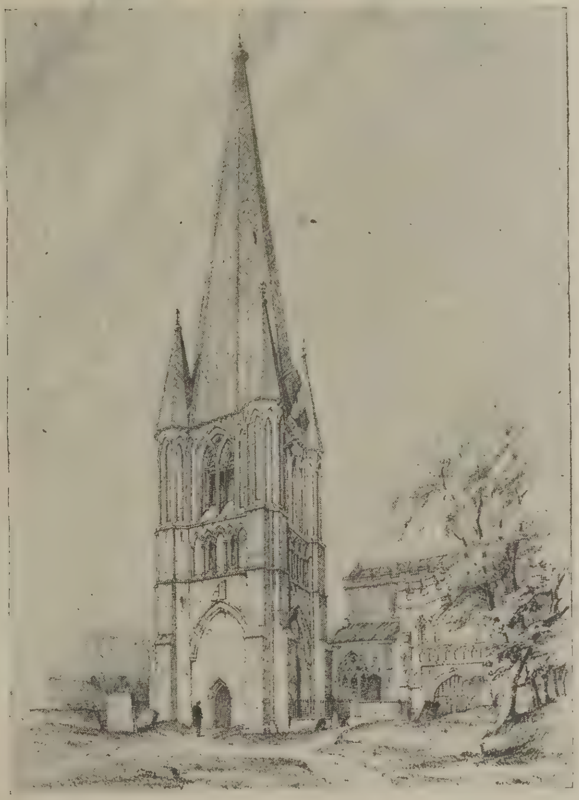
* Mr. Fraser, of Wych Street, is to be congratulated upon the success which has attended his efforts to secure so excellent a photograph of a subject whose difficulty has baffled more than one votary of the art—the spire of St. Matthew's, City Road. The accompanying illustration of its metal prototype at Sutton St. Mary may be of interest to not a few.

* Mr. Ward was acting alone about this time (1854-55), Mr Nixon having withdrawn from, while Mr. Hughes had not as ye joined, the staff.

The windows, placed rather high up in the wall, are composed of two trefoil-headed lights, with slender shafts having boldly foliaged capitals and slightly horseshoe-shaped arches. Mr. Ward in his apse windows adhered, as observed just now, to Early Gothic precedent by his use of the mosaic treatment, but Clayton & Bell, in the glass with which more than twenty years after they equipped the two lighting either side of the chancel, completely emancipated themselves from conventionalism by the adoption of two tiers of subjects regardless of the central mullion. In these windows, to which we shall have to recur at a later stage of this history, the most beautiful tinctures are employed.

While on the subject of Sir Gilbert Scott's works belonging to this epoch of the Revival (1855-58), mention should be made of the stained glass executed under his superintendence by Mr. Ward, from cartoons by Mr. J. R. Clayton, in the eastern triplet and two windows in the north aisle of Holy Cross Church, Ilam, in Dove Dale; in the first clerestory window of the choir, counting from the east, at Westminster; in the west window of the little chapel of St. Edmund in Exeter Cathedral; and in the west end and apse of St. John's Church, Leicester—one of three built in that richly churched town by Sir Gilbert, remarkable as a very early work evidencing the architect's predilection for foreign forms and details, and whose graceful spire, with its alternate bands of white and pale red stone, arrests the attention of the ecclesiologist as he emerges from the station in the London Road †

ST. MATTHEW, CITY ROAD.
(*Sir G. G. Scott, Architect*, 1847–48).



STEEPLE OF SUTTON ST. MARY, LINCOLNSHIRE.
(*From Johnson's "Reliques of Ancient Church Architecture."*)

These works, entrusted to Mr. Clayton while cartoonist to Messrs. Ward & Nixon, and a few years before setting up in practice for himself, are all marked by that care and refinement for which he afterwards became so conspicuous, affording as they do a striking contrast to those of other stained-glass makers less fortunate in the possession of draughtsmen.

In the Westminster window the effigies, those of Moses and Samuel, are somewhat stiff and priggish contrasted with the ten stately and amply draped figures in the other windows, which Mr. Clayton executed in conjunction with the late Mr. Alfred Bell a few years subsequently. At St. John's, Leicester, we perceive in the iconography of its chancel windows the adumbration of that system which has since become familiarised to us by the artist's works in the apses of St. Mary, Stoke Newington; Exeter College Chapel, Oxford; and St. John's College, Cambridge. For the tinctures, in which the due admixture of white had not at that period been quite learned, Mr. Clayton was hardly to be held responsible, but on the whole it may be safely said that little of the stained glass produced contemporaneously can equal that of Ward & Nixon's in the apse of St. John's, Leicester.

As a cartoonist Mr. Clayton was requisitioned by other firms of glass painters about this period, the later fifties. The figures in the memorial window to his old master, Richard Carpenter, in St Mary Magdalene's, Munster Square, are from his pencil, Hardman & Co. executing the mechanical part; and to him is also due much of the excellence of the east window of Etchingham Church, Sussex, from the ateliers of Lavers & Barraud, of whose works this is one of the earliest specimens.

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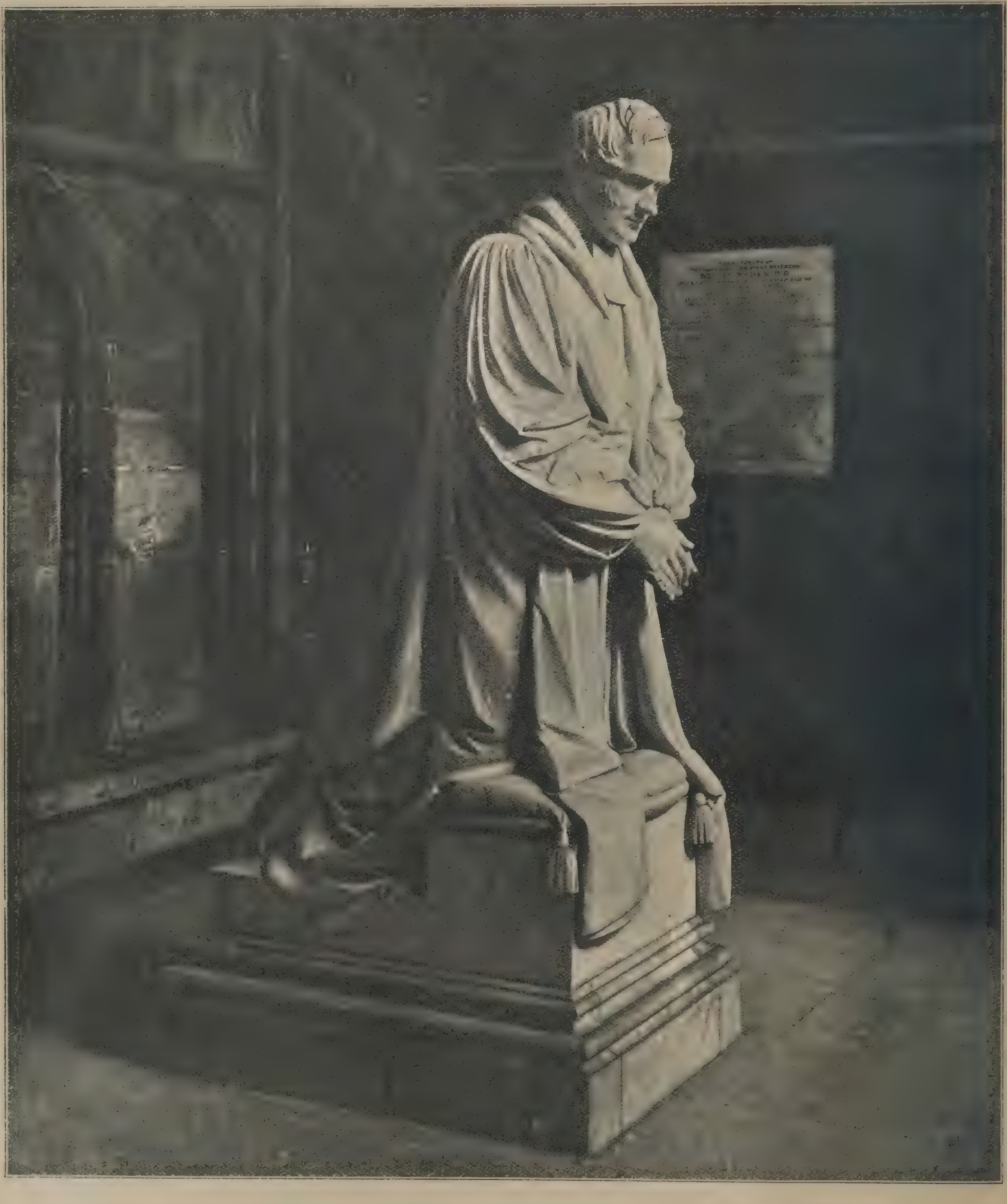
* Sir Gilbert Scott's advocacy of the application of foreign detail may be traced to as early a period as 1850, in some remarks which he affixed to a paper entitled "A Plea for the Faithful Restoration of our Ancient Churches." Originally read before the Buckinghamshire Architectural Society in 1848, this paper was expanded into a volume and dedicated to that patron of religious art, Dean Peacock of Ely.

† This graceful structure, the fenestration of whose aisles seems to have been influenced by that of St. Margaret's Church in the same town, was highly praised by Sir Charles Anderson, a special visit being paid to it on his recommendation by the architectural societies of Lincoln and Northampton on the occasion of their joint meeting at Leicester in the May of 1854. It was during this meeting that Rev. G. Aycliffe Poole read a most valuable and interesting paper, a report of which will be found in the *Ecclesiologist* for June of that year, on the churches of Leicester, and in it he did much towards elucidating that architectural mystery, St. Mary de Castro, which, with St. Nicholas, St. Martin's, St. Margaret's and All Saints churches (to say nothing of Sir Gilbert Scott's three beautiful contributions to its ecclesiology), will detain the student for a considerable time in this cheerful Midland town. The neighbourhood of Leicester is almost as rich ecclesiologically as the Nene Valley of adjacent Northamptonshire. Between it and Melton Mowbray is a succession of beautiful specimens of village church architecture, Kirby Bellairs, Asfordby and Frisby being especially worthy of study. Lying as they do close together and abounding in fine detail, these three churches and the grand cruciform one of Melton—the pride of the Midlands—will constitute a very charming day's *tourette*.

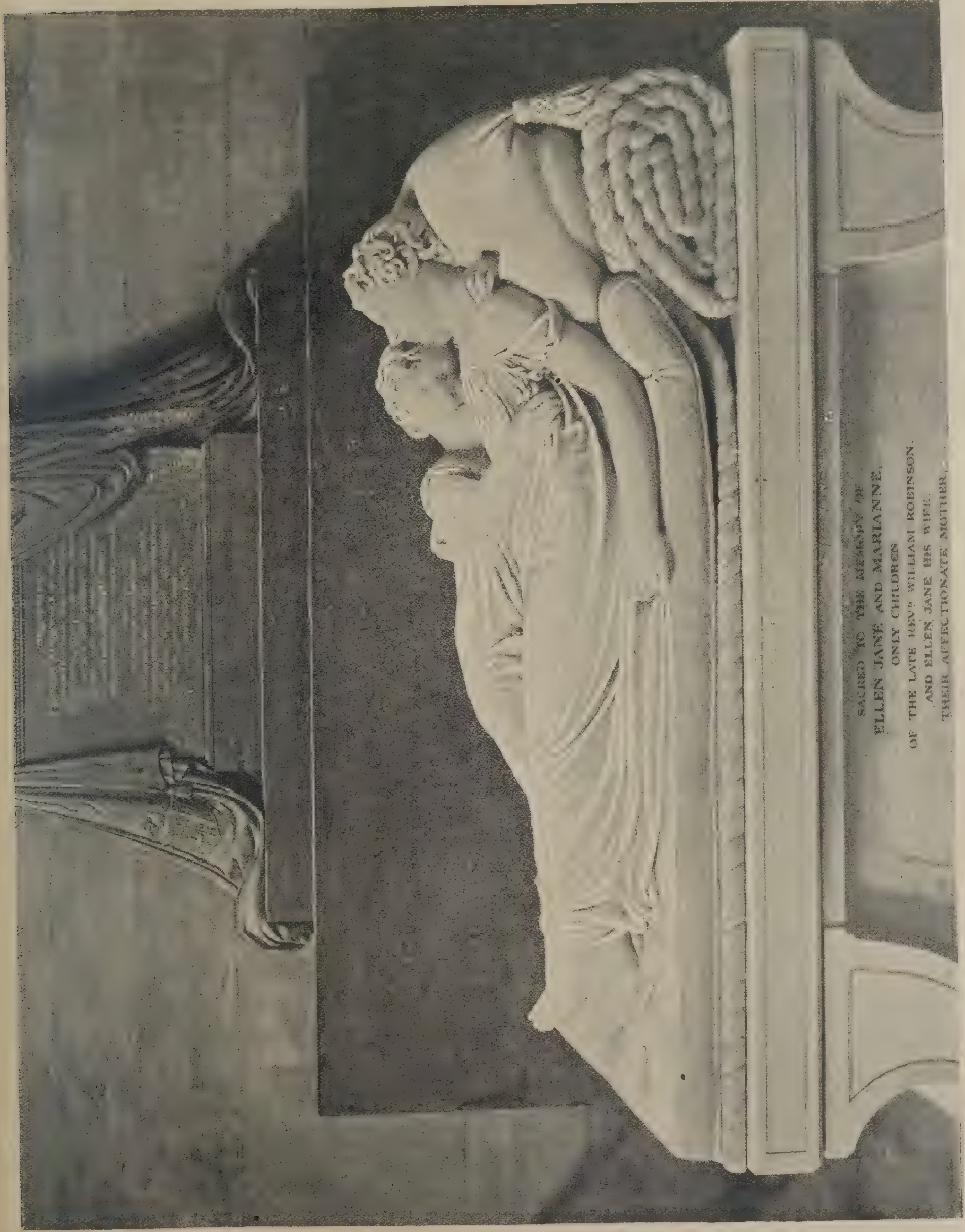
TWO MEMORIALS BY CHANTREY.

ALTHOUGH they receive excessive admiration from visitors, the two examples of Sir FRANCIS CHANTREY'S art which are now in Lichfield Cathedral would be more in place if they were found in a national gallery of sculpture. In his day sculptors cared little about the surroundings amidst which a work was to be placed. In fact no difference was made in the treatment whether a figure was to stand in the open air or in a building. Styles of architecture were also supposed to be without influence, and during a great many years a Gothic memorial was believed to be an impossibility. In fact, in CHANTREY'S days a monument like that of *Hodson of Hodson's' Horse* in Lichfield Cathedral, which was designed by G. E. STREET, or that of *Archdeacon Moore* designed by Sir GILBERT SCOTT, in the same aisle, would be refused admission by the authorities. Sculpture was supposed to have only one style, the Classic. If instead of occupying the place of an ancient altar in a Gothic cathedral the so-called *Sleeping Children* were found in a public gallery, the group would gain genuine commendation. CHANTREY'S name is not associated with figures so young, and when he received the commission for the monument he wisely sought the kind of aid which he needed. The design was prepared by THOMAS STOTHARD, R.A., who was often requested to supply drawings for statuary. He acknowledged that "no sculptor had ever before so completely embodied his ideas in the marble;



HENRY RYDER, BISHOP OF LICHFIELD AND COVENTRY. *By Sir Francis Chantrey, R.A.*

and he always spoke of Chantrey as a man of the first order of genius, cultivated and imbued with the grace of classic antiquity." It is, however, believed in Derbyshire that Chantrey had derived inspiration from the monument of Penelope Boothby in Ashbourne Church, a work by Banks, and Stothard may have had a sketch of it when preparing his design. The sleeping children were the daughters of the Rev. W. Robinson.



"THE SLEEPING CHILDREN." *By Sir Francis Chantrey, R.A.*

Figures of kneeling bishops are often seen in continental cathedrals, and especially in Italy. Chantrey's figure of Bishop Henry Ryder will not sustain a comparison with the majority of them. It was no doubt intended to express the humility of the prelate, but the figure is more suggestive of a clergyman watching a grave. It is remarkable that after the bishop's death a poet suggested that the best memorial of Bishop Ryder, who presided over the See of

Lichfield from 1824 to 1836, would be found in the recollection of the clergy and people of the diocese:—

Those who knew thee most and best
Deeply in their faithful breast
Shall record thy virtues, flown
To a country all their own.
While thy farthest flock who knew
How devoted and how true
Was their much-loved shepherd's care,
Each lamenting his lost share,
Wandering o'er the hills shall tell
Of the mournful funeral knell,
That in every heart shall raise
Echoes of regret and praise.
Nor shall one that hears deny
The just meed of sympathy.
Heavy is thy loss to earth;
But the memory of thy worth
Shall excite full many a heart
To perform a kindred part,
And erect thee thus a tomb
Lasting to the day of doom—
Lasting through eternal years,
In the region of "no tears,"
Whither thy blest soul's release,
Wafts it to the home of peace.

SCULPTURE IN BIRMINGHAM.

EARLY in the year there will be unveiled in front of the Council House the new statue of Her Majesty the Queen, which has been given to the city by a former townsman, Mr. W. H. Barber. This highly acceptable gift, says the *Birmingham Daily Post*, suggests the appropriateness of a brief review of the present possessions of the city in the department of monumental statuary.

It was not much that our forefathers did in the way of erecting statues, our first memorial of this character owing its existence to the enthusiasm awakened by the achievements of Admiral Lord Nelson, and the especial regard which was felt towards him by our townsmen from the circumstance that only three years before the great but fatal battle of Trafalgar "the hero of the Nile," together with Lady Hamilton, spent the greater part of three days in the town. When the news of his death arrived the high bailiff was moved to convene a public meeting to take into consideration "some plan for erecting a monument, statue or pillar to the memory of the late gallant hero" Subscriptions came in rapidly, a sum of about 3,000*l.* being ultimately subscribed. There was a good deal of wrangling whether the monument should be a pillar or a statue, but ultimately the statue won the day, the committee in charge of the business accepting a model prepared by Mr. Westmacott, R.A., from which was executed the bronze monument now in the High Street Market Place. Westmacott, who later received the honour of knighthood, was one of the leading sculptors of his day, one of his best known works being the figures which decorate the pediment of the Royal Exchange, London. The artist received a commission of 2,500*l.*, the pedestal, lamps and palisading costing another 500*l.* The statue is an artistic piece of modelling, but it cannot be claimed as an imposing monument, being too small for so wide a site as that upon which it stands. It was, however, thought much of by the generation that erected it, and Joseph Farror, an auctioneer who lived in High Street, bequeathed a sum of sixpence per week to be paid for ever out of the rent of a house in Bradford Street, in order that the statue might be cleaned from time to time. The money was entrusted to the churchwardens of St. Martin's, but in process of time the donor's intentions were sadly neglected, until a few years ago the churchwardens were reminded of their obligations by a correspondent in the columns of the *Daily Post.* During the first half of the present century no other statue was erected. J. G. Kohl, a German traveller, who visited Birmingham in the autumn of 1842, wrote concerning it that "as far as the useful arts are concerned Birmingham may be a paradise, but with respect to the fine arts it is a very desert," and referring to the Nelson statue he says:—"This statue, small as it is, is the only one; literally the only statue that Birmingham can boast of. A city of 200,000 living specimens of humanity, and only one marble man among them. . . . It may be questioned whether in the whole world another town of ecual extent and importance could be found so destitute of public monuments as Birmingham." This worthy visitor had overlooked the circumstance that Nelson was in bronze.

Although we had no "marble man," we at least had "two graven images" in the shape of the statuettes of the boy and girl which adorn the façade of the Blue Coat School, and which in their way are by no means despicable. According to Mr. Dent, these were placed in their niches when the school was enlarged and faced with stone in 1749. They were executed by a Birmingham sculptor named Edward Grubb, who subsequently removed to Stratford-on-Avon. Hutton thought a good deal of these figures, and wrote of them that "they are executed with a degree of excellence that a Roman statuary need not have blushed to own." We are unable to say whether the figures are of marble or of some less durable stone, but they are in good preservation, and many passers-by stay to look at them. The painting of the figures in colours was first done in 1881. Leaving out of account the portrait busts, of which there are a considerable number in the Art Gallery, the General Hospital and other public institutions, and also omitting these "bluecoat children," we find that at the present time the personages whose memory has been honoured in Birmingham by the erection of their full-length statues are thirteen in number, and in addition we possess by gift and as works of art the original models, by Foley, of the fine statues at Dublin of Edmund Burke and Oliver Goldsmith. Our thirteen statues proper are the work of ten different sculptors, including several Royal Academicians.

Taking our statues altogether they are a decidedly mixed lot, a few only being superior works of art, while the rest are of merely mediocre character. Not the least worthy, however, of our statues are those which were the work of our talented townsman, the late Peter Hollins, by whom was modelled the striking figure of Sir Robert Peel, whose imperishable bronze presentment looks down New Street from opposite the General Post Office. This statue cost 2,000*l.*, and was cast by Messrs. Elkington & Mason. The contemporary chronicle records that it was "the first colossal work of the kind ever produced in one piece in Birmingham." It was inaugurated on August 27, 1854, according to Langford, and 1855 according to Dent. Originally it was surrounded by palings, of which the spikes represented ears of corn, and the figure was placed with its face towards Christ Church. In 1878, however, the palings were removed and the position of the statue altered to that in which it now stands. The other statue by Peter Hollins is that of Sir Rowland Hill in the large hall of the Post Office, probably as successful an attempt to deal with the modern costume of frock coat and trousers as we possess. This memorial was erected by public subscription in the year 1870 at a cost of 1,500*l.*

Resuming, however, the chronological order of events, note has to be taken of two effigies, both by the same artist, and concerning both of which it can be said that they were cheap and striking. We refer to the statue of Thomas Attwood in Stephenson Place, which cost 800*l*, and the Sturge monument at Five Ways, which cost 1,000*l.* Thomas Attwood was chairman of the Birmingham Political Union, and one of the two first members of Parliament for the borough, being elected to that dignity in company with Mr. Joshua Scholefield in 1835. The statue was unveiled with considerable ceremony in June 1859. It is said to be a good portrait, and to represent the subject in a characteristic attitude. The monument to the good and benevolent Joseph Sturge, unveiled on June 4, 1862, was the result of a movement in which Alderman Manton was a prominent figure, and which had also the countenance of John Bright, who, writing to Alderman Manton, said:—"I am not generally in favour of statues or monuments erected to the memory of the departed; but in the case now before us I shall gladly support any plan that is likely to aid in keeping before the eye and mind of the people the noble character and the eminent services of our lamented friend Joseph Sturge." The monument, which comprises a statue of Mr. Sturge in Sicilian marble, flanked by figures of Peace and of Charity in Portland stone, also serves the purpose of a drinking fountain. The sculptor both of this and the Attwood statue was described in contemporary records as "Mr. John Thomas, of London." Mr. Whitworth Wallis identifies him in the Art Gallery catalogue as John Evans Thomas, and says "he was of a Welsh family, and was born in 1813 at Chalford, Gloucestershire. He came to London to undertake part of the decorative sculpture of the new Houses of Parliament, and was chiefly engaged in works of that class. From 1858 to 1862 he was a constant exhibitor at the Academy. His contributions were chiefly busts. He executed the allegorical bas-reliefs of London, Liverpool, Manchester and other cities at Euston railway station. He suffered from overwork and anxiety, and died at Maida Hill, April 9, 1862, aged forty-nine." Thomas appears in the art gallery catalogue as the modeller of the very fine bronze group of Boadicea and her daughters, presented by Elkingtons, which stands in the lobby of the Art Gallery, and also of the smaller bronze, "The Death of Tewdric." He is said to have done a good deal of the ornamental carving of the Grammar School, and the Sturge monument was his last work; in fact, he died before he could put the finishing touches to the memorial.

Our two next statues in order of date are the very fine figure of the late Prince Consort in his robes of the Order of the Garter, which stands in the upper corridor of the Council

House, and the Watt statue in Ratcliff Place. The former is one of the finest works of the late J. H. Foley, R.A., and was completed in 1867. The Watt statue is by Alexander Monro, and while it is undoubtedly the most beautiful and most artistic that the town possesses, it stands in the poorest site of any. Pleas have been urged that it ought to be removed within doors, but even if it remains outside a better position should be found for it. We understand that a suggestion has been made to the general purposes committee that it should be given the position occupied by the Wright statue in front of the Council House, and that the figure of Wright should be transferred to Ratcliff Place. This idea is worthy of consideration, not only because Monro's work would be better seen, but because the position would be more appropriate in relation to the new statue of the Queen. It would balance the figure of Joseph Priestley, whose attire, like that of Watt, is that of the last century, and Her Majesty would stand between the effigies of the two most eminent men of science who have been associated with Birmingham—Priestley the discoverer of oxygen, and Watt "the father and pioneer of mechanical engineering."

We now come to statues whose story is comparatively recent history, and they include four which are the works of Mr. F. J. Williamson, of Esher The first, and on the whole the best, of these is the Priestley memorial, unveiled by the late Professor Huxley on August 1, 1874. About three years after this a subscription was raised for a statue of the late George Dawson. The commission was entrusted to the late Mr. Thomas Woolner, and a decorative canopy was designed for it by the late Mr. J. H. Chamberlain. The statue, however, was so disappointing to the subscribers that it was replaced by a better portrait executed by Mr. Williamson in 1884, the first effigy, which had become somewhat damaged, being removed to the lobby of the Free Library. To Mr. Williamson's chisel we also owe the statue of John Skirrow Wright, admirable as a portrait, but far from decorative, and the figure of Sir Josiah Mason, who sits bareheaded in front of his Science College, now the University of Birmingham. It is interesting to recall the circumstance that as far back as 1870 the City Council were anxious to erect a statue of Sir Josiah Mason in order to commemorate the foundation of his orphanage. Designs were obtained, and that of Mr. E. G. Papworth was selected; but the project was not approved by Sir Josiah Mason, and he declined to sit. The Council paid Mr. Papworth a solatium of 150 guineas. When the worthy Sir Josiah was no longer alive to prevent it, a body of enthusiastic subscribers found the money to carry out their passion for portrait statues, which at one time seemed to be quite an epidemic.

When Mr. Foley had finished the statue of the Prince Consort, a commission was given to him for a companion figure of the Queen, but his death prevented his carrying it out. The order was then handed over to Mr. Woolner, who, by the way, carved the admirable medallion of the Colonial Secretary forming part of the Chamberlain fountain. He handed over his work to the town in 1884, and the *Athenæum* spoke of it as "one of the finest portrait statues of the English school." It is not devoid of artistic merit, but it does not compare with Foley's Prince Consort, and it has been truly said that very few who have seen it have been heard to say they like it. The Bright statue upon the upper landing of the Art Gallery was executed by Mr. Bruce Joy for the Liberal Association in 1888. It is a refined work of art, reproducing in a most lifelike manner the lineaments of the silvery voiced and impassioned orator on whose words so many thousands hung at the great Town Hall meetings of days gone by, but its position, particularly in respect of lighting, fails to do justice to the work. Some day it may be possible to find a more suitable place for it. Inside the rotunda of the Art Gallery is the seated statue of the late Dr. Dale, by Mr. Onslow Ford, R A. This was presented to the city by a large body of subscribers about three years ago. Many who knew Dr. Dale by almost daily association with him, while admitting the artistic character of the work, thought the portrait left something lacking, and expressed their disappointment, but "dull, cold marble" rarely recalls the living presence of a departed friend. It may be pointed out that Birmingham does not possess a single equestrian statue, and none of any military hero; in fact, the only military men who have received public monumental honour in our city are Lieutenant-Colonel Unett, who fell in the Crimea, and the late Colonel Burnaby, to whose memory obelisks were erected in St. Philip's Churchyard.

One of the most interesting municipal buildings in London will pass out of active use, if it is not altogether demolished, when the much-talked-of acquisition of a new town hall for Marylebone becomes an accomplished fact. This is the old Court House and Watch House, which was originally erected as long ago as 1729, and is conspicuous for its massive oaken door and heavily-barred windows.

THE VALUATION OF IRELAND.

To estimate rightly the material progress of a country two factors are necessary, says the *Irish Times*. First, its population; secondly, its wealth. In the absence of full particulars on these two heads, taxation is likely to be unequal and legislation ineffective. So far as the first factor, population, is concerned, there is abundance of statistics of an accurate and painful kind. The census has been regularly taken since the beginning of the century. For the first forty years after the Union the population increased rapidly—too rapidly. In 1821 it was nearly seven millions, and twenty years later reached its high-water mark of 8,175,124; more than half the then population of England and Wales, and more than three times as much as the then population of Scotland. But before the next census was taken the famine had occurred, and in 1851 the population had diminished by a million and a half to 6,574,278. In 1861 a further drop of nearly 800,000 had to be recorded, and in 1871 of nearly 400,000. In 1881 the rate of decrease was shown to be temporarily diminishing, but in 1891 it again sprang up, and the population at the last census was only 4,704,750, less than a sixth of that of England and Wales, and barely 700,000 more than of Scotland. There is every reason to fear that when the people are again numbered next April a further diminution will be shown.

A nation may be diminishing in numbers, and yet its material prosperity may be increasing through the greater proportion of wealth available for its members. There are some reasons for supposing that this is the case in Ireland. It cannot be denied, we think, that, taken as a whole—though there are many individual instances to the contrary—the people are better housed, better clothed and better fed than they were a century or half a century ago. If the statistics of the banks may be taken as evidence, they have more money at their disposal. In 1849 this amounted to 7,469,695*l.*, or little more than 1*l.* a head of population. Fifty years later, in 1899, it amounted to 39,840,000*l*, or more than 8*l.* a head

Money in the bank is, however, only a comparatively small proportion of the wealth of a people. In an agricultural and pastoral country like this the great touchstone of national prosperity must be the value of the land. Unfortunately it is difficult to form an estimate of the changes which may have occurred in this respect. There has been no regular revaluation of the country at fixed intervals as in the case of the census. Indeed, until the century was well advanced there was no proper valuation at all. The first regular survey of Ireland was made in 1654 by Sir William Petty. It was known as the Down Survey, not because it was specially concerned with county Down, but because it was laid "down" on paper or parchment. It consisted of county maps, showing parish and barony boundaries, and baronial maps showing the boundaries of townlands. But no attempt appears to have been made to arrive at a proper valuation of the properties therein shown. Consequently, at the beginning of the nineteenth century there was no equality of taxation. In some parts of the country the assessment was made by civil divisions of ploughlands, varying in size and value, but each rated at an equal sum. In other cases a division by townlands was made, each contributing according to an assumed area which bore no definite proportion to their actual area or value. Subdivisions were made such as "gneeves," "cartrons" and "takes," but the areas of these varied, and formed no just basis for taxation. An interesting account of the mode of assessment and collection of the grand jury cess was given by Mr. Spring-Rice, M.P., the chairman of a select committee which was appointed to consider the subject in 1815:—

"After each assizes the county treasurer applots the sum chargeable upon the entire county among the respective baronies by a table giving the area of each barony, and the sum is divided in proportion to the computed contents of each. These areas do not agree with the Down Survey, but have been handed down as a county book from one county treasurer to another. A warrant is issued to each barony high constable to collect the amount as so determined.

"Each barony high constable has a list of parishes and townlands in his barony, the contents of which are stated in reduced or computed acres, which may differ considerably from the actual acreage. The barony high constable applies to any individual whom he may prefer upon each townland, stating amount to be raised in such townland, and giving him authority to raise it. In default such individual is bound to pay the amount himself. This person receives no remuneration whatever. He is wholly irresponsible, and there is no check that he collects the proper sum."

After hearing this and other evidence, the select committee advised that a proper system of valuation should be made, and in 1819 a Bill for the survey and valuation of Ireland was presented, but never became law. In 1824, however, another select committee recommended that a survey on the 6-inch scale should be made by the Ordnance Department, and that a valuation of the whole country on a fixed and uniform principle should be carried out by one central authority, and two years later an Act was passed for "the more equal levying of grand jury cess and rates." It was under this Act that in 1830 Sir Richard Griffith began his much referred to valuation. The townland was made the unit of value, and the valuation was based on a scale of agricultural prices set out in the Act, which prices were derived from the average prices of agricultural produce ruling at that time throughout the principal maritime markets of Ireland. Houses were to be valued at two-thirds of the rent they would let for, one year with another, but under an amending Act no house of a less value than 5*l.* per annum was to be included in the lists. Mills and factories were valued, but water-power only so far as actually used. All property of a public or charitable nature was exempted from rating. By the year 1846 the whole of Ireland had been valued, with the exception of six counties. In the meantime the Poor Law Act of 1840, under which a separate valuation for each tenement was necessary, had come into force. The dividing up of the townland valuation by local valuers for the purposes of this Act not being found satisfactory, Lord Clarendon, then Lord Lieutenant, ordered the remaining six counties to be valued in tenements. Another Valuation Act was passed in 1846, which specified that the valuation for poor-law purposes was to be made on the principle of the net annual value of lands and houses, whilst for county cess the valuation on a scale of agricultural prices was continued. The new system was, however, found to be both costly and cumbersome, and was abandoned in 1852, when a third Valuation Act was passed. This Act, which is still in force, provided that every tenement and rateable hereditament should be separately valued, and that the valuation of land should be made on an estimate of the net annual value thereof, having reference to the average prices of certain articles of agricultural produce. These prices, taken from the general averages of forty market towns in Ireland during the years 1849, 1850 and 1851, were as follows :—

	1852.			1898.	
	s.	*d.*		*s.*	*d.*
Wheat . . .	7	6	per cwt.	6	4¾
Oats . . .	4	10	,,	5	2½
Barley . . .	5	6	,,	7	1
Flax . . .	49	0	,,	47	2
Butter . . .	65	4	,,	88	1¾
Beef . . .	35	6	,,	50	10¾
Mutton . .	41	0	,,	58	9¾
Pork . . .	32	0	,,	41	8½

By way of comparison we give in the second column the prices of the same articles according to the computation of the Irish Land Commission in 1898. The Act of 1852 exempted from rating all property of a public nature, or used exclusively for charitable purposes, or the purpose of science, literature or the fine arts. The valuation, which was carried out by Sir R. Griffith, was begun in the South and ended in Ulster. We learn from the valuable memorandum on the subject prepared in 1897 for the information of the Royal Commission on Local Taxation, by Mr. J. G. Barton, C.B., the present Commissioner of Valuation in Ireland, that the procedure was as follows :—When a surveyor commenced work in a district he ascertained and registered the names of the occupiers and immediate lessors in each townland on certain forms. He then determined the boundaries of the several holdings, and marked them on the Ordnance Survey maps, numbering them to correspond with the schedules of occupiers. The areas of the several holdings were then computed and checked with the total area of the townland in which they were situate. Each district was then divided into "quality lots," *i.e.* areas in which the land was of equal value throughout, and on each of these a value was placed, after careful examination, and making allowance for any local peculiarities, climatic or otherwise. Mines, quarries and potteries were valued according to their average receipts for a number of years; similarly railways, canals, fisheries, waterworks, gasworks, &c., were valued on net receipts. The valuation of the whole of Ireland was completed in 1867, and amounted to 12,975,066*l.* Since then there has been an annual revision of the valuation, based on the presentments of local rate collectors, as passed by the Commissioner of Valuation. Alterations are only made for two reasons—first, where the limits of the tenements have been altered, and second, where any property such as buildings, fisheries, railways, canals, &c., requires to be increased or diminished. Under no circumstances, except where a clerical error is discovered, may the total valuation of the lands, independently of the buildings, within each respective townland or other statutory area, be increased or lessened. Hence, although the total valuation of Ireland has gradually increased to 14,852,191*l.*, the value of the land remains as it was in 1867, namely, about nine millions. The increase in the valuation of other property, from about four to six millions, is chiefly due to the growth of the large towns. Since 1871 the valuation of the city of Dublin has increased from 550,500*l.* to 742,400*l.*; and of the five surrounding townships from 170,000*l.* to over 310,000*l.* Belfast in the same period has nearly trebled its valuation, rising from 426,000*l.* to 1,150,000*l.*, a small portion of this increase being, however, due to the enlargement of the city boundary. Cork has risen from 137,000*l.* to 170,000*l.*, Derry from 62,000*l.* to 94,000*l.*, and Waterford from 37,000*l.* to 47,000*l.*; but Limerick has made less progress, its valuation of 63,700*l.* in 1871 being now raised to 70,000*l.*

No revaluation of the country as a whole has been made since Sir R. Griffiths completed his task. The annual revision, as we have pointed out, only deals with special cases when a revision is asked for by the rating authorities or ratepayers, and can only rearrange the valuation of a townland or other area without altering its total amount. In view of the great changes of prices and values that the last thirty years have witnessed, and of which some notion may be gained from the table given above, and considering also the important bearing which the subject has upon legislation, it is high time that a revaluation of the whole country were taken in hand. A beginning has already been made. Under the Local Government Act of 1898 a revaluation of the six county boroughs was authorised. Belfast is already in process of revaluation, and next year Dublin will follow. But for the revaluation of the rest of the country a new Act will be required, and we trust that the Government and the Irish members of Parliament will see to it that such a measure is quickly introduced. No one will under-estimate the importance of Sir Richard Griffith's work, but by the nature of things it could not be expected to last for ever, and the time has arrived when it must in the interests of all classes make way for a new valuation based upon present prices and conditions.

CREWE HALL.*

FULLER, in speaking of Crewe Hall, described it as the model of excellent building, and in every work on the mansions of England it holds a prominent place. It was restored by the late E. M. Barry, R.A., and his intimate knowledge of the buildings gives interest to the following account, which formed part of one of his Academy lectures :—

Crewe Hall was finished about 1636, and the family possesses two interesting oil pictures painted immediately after the completion of the works. These paintings enable us to form a clear idea of the Hall as it existed when fresh from the hands of its founder. They are the more interesting, because the building has passed through many vicissitudes.

The outbuildings, containing the servants' offices, have been long since removed, and a new wing was added, about 100 years ago, to contain those rooms, arranged in a manner more consistent with modern requirements. In 1866 a destructive fire ravaged the whole building, and destroyed almost every part, except portions of the dining-hall and the comparatively modern wing.

The destruction was so complete that the Hall, as it now exists, is less a restoration than a rebuilding, although the greatest care has been taken to recover the design of Sir Randulph, for such of the work as it has been possible to restore. It is believed that all the rooms built by him, and which still exist, exhibit the original appearance, although with less roughness of execution and uncouthness of detail, particularly in respect of the human figure.

Such peculiarities cannot, I think, be properly repeated in a modern reconstruction. They are a part of old work; and, as long as they exist, have an historical interest, which should not be tampered with; but when the fabric, with all its associations has been swept away, by fire or otherwise, it is not the part of the nineteenth-century restorer to reproduce matters which, at best, were the weaknesses of his predecessors. He is, in such cases, free to select, and should not seek, by a clever imitation of bygone tricks of construction or design, to deceive the spectator as to the age of his own work, and so pass off the latter as something which it is not.

On the other hand, we cannot, as I have said in a former lecture, assent to the conclusion that all restoration is a wrong and unclean thing, not to be tolerated—a crime to be denounced and punished. An owner of a great historic mansion, born and bred in it, honouring and loving every stone in the fabric, is not to be told that it is gone from him for ever, that he must not venture to reproduce it, lest the restoration should shock the æsthetic sensibilities of some antiquary, the high sentimentalism of some "superior person."

He may fairly reply:—"I shall follow in the steps of my fathers; I will restore what is good, I will discard what is bad or obsolete, and I will add all that I consider necessary, in the altered circumstances of my own time. As I am not ashamed of my work, I will not seek to conceal it by artifice; but it shall stand out, in respect of date, as clearly as the work which it replaces, and which I have lost by no fault of my own. Such is, as far as I know, the spirit in which my forefathers worked; it was also the spirit of the best architects of old, and I will follow their lead."

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* See Illustrations.

This appears to me a reasonable view of restoration of such buildings as Crewe Hall, and it has, as a matter of fact, been rebuilt and otherwise dealt with in accordance with such principles. The building, therefore, is only partially the same as that left by its original designers; but in the rebuilding their design has been reproduced wherever practicable, with such modifications as have been referred to, and the date of the new work is conspicuous in various parts of the house, so that there may be no room for error as to the time of its execution.

I may, perhaps, be permitted here to quote some graceful lines which were written on the occasion of the completion of the works of renovation in 1870. They are from the refined and polished pen of a living poet, a nobleman nearly related to Lord Crewe, and of widespread literary fame—I mean Lord Houghton, whose approbation of a work of reconstruction has, moreover, a somewhat special value, as coming from a member of the new Society for the Preservation of Ancient Buildings, which has been supposed by some to be ready to denounce all restorations in equally unmeasured terms :—

> Over the Old, a solemn sadness lies,
> Upon the New, a garish freshness shines ;
> Happy the Work, that blends for heart and eyes,
> Present and Past, in undistinguished lines.
>
> Thus Art combines, in this manorial pile,
> Scenes of the grand Antique, and modern Fair ;
> Historic faces from old corners smile,
> And young feet tread the renovated stair.
>
> Come, Friend and Guest ! enjoy as suits the mood,
> Serious or gay, content with either fate ;
> And pray that, for all time, the greatly good
> May dwell herein, as erst the goodly great.

Let us now turn our attention to the building, as shown to us in the paintings. We find the house externally a square block of about 100 feet each way. The minor offices are separated, in small gabled buildings, and there is a forecourt of moderate size, walled in from the park, and enclosing a raised terrace in front of the house.

The building is much smaller than Longleat, and less imposing in architectural character and detail, but it is impossible not to be struck with certain points of resemblance. We have the same grouping together in one large block, the same projections of bays and oriels. There is the same wealth of windows, with numerous mullions and transoms, and the same horizontal spirit of design.

On the other hand, we may trace a more English feeling pervading the later example. The English architect of Crewe was less at home than the Italian designer of Longleat, with orders and pilasters, and the use of them is consequently limited to the principal entrance. The well-known feature of the gable is also retained; and though in the main building it appears in so subordinate a form that it may be said to exist under protest, in the outbuildings we have the gable freely used, both in its simple shape and in the curved and fantastic forms which succeeded the severer lines of the Mediæval styles. The chimneys of red moulded brick, the mixture of brick and stone in the elevations, combine, with the peculiarities above mentioned, to give Crewe Hall a more homelike character than attaches to the more stately and palatial Longleat.

Let us now pass inwards and examine the plan. For a block of 100 feet square some method of internal lighting was necessary, and we shall find that this was obtained by means of an internal court, a foreign feature rather than English, as we have already seen. The arrangement of Crewe Hall is, indeed, Italian, in the same sense as that of Longleat, and possibly from the same causes, but the details are more in accordance with English customs

We have before noticed how the tendency arose to gather together the isolated buildings, at first scattered very much at random, within the fortified enceinte of Mediæval castles. In great structures the apartments were then, as we know, built round quadrangles. The English manor-houses followed the policy of concentration by adopting a plan of centre and wings, while the Italian method favoured the small central court, in the midst of a square block of building

We shall find at Crewe a Transitional character, which serves to mark the fusion of the two principles of English and Italian work. The general arrangement accords with the latter, while the disposal of the design in detail recalls, in more than one interesting particular, the arrangement of Mediæval houses. Thus, we have the hall as the great feature of the interior. It is, as of old, a room of great dignity and importance. Close to it is the parlour, or withdrawing room for the family, called by tradition the "Carved Parlour."

The upper part of the hall is marked by the oriel and the daïs, and at the lower end is an elaborate and handsome screen of carved oak. We find, in relation to this screen, the old arrangement of the passage, with buttery-hatch behind it, communicating with the offices, and there are openings in the upper part of the screen, which, taken in connection with the peculiar design of the top of the latter, lead to the conclusion that above the passage there was the traditional minstrels' gallery overlooking the hall.

The ceiling of the dining hall is designed with great intricacy, and is executed in plaster, with pendants boldly treated. The walls are wainscotted to a height of about 8 feet, and there is a large fireplace in the middle of one of the side walls. It was necessary for any person who wished to enter the house to pass through the hall, though he might obtain access to some parts of the building—as, for example, the chapel—by passing into and through the internal court.

The chapel was evidently constructed in accordance with precedent, although it stands north and south, thus disregarding the practice of orientation. It has always been set apart for sacred uses, having been formally consecrated by Bishop Bridgman in 1635. Although of small dimensions, the chapel possessed much interest.

We may remark the division of the end furthest from the altar into two storeys, one of which formed a gallery, an arrangement which was noticed on a former occasion in reference to Mediæval buildings of the preceding centuries. The lower part under the gallery was screened off as an entrance and ante-chapel, and in the gallery above it was the family pew, approached from the private apartments. The servants and others entered from the open court.

The chapel was of the same internal height as the hall, and here we may notice another peculiarity in the distribution of the interior at Crewe. This is the introduction of an intermediate or mezzanine floor. The general design of the exterior indicates a ground storey of considerable height. The large windows are evidently consistent with the existence of lofty apartments, and such are, indeed, the hall and the chapel, and, to a somewhat less extent, the "Carved Parlour." The rest of the storey is, however, horizontally bisected by a floor ; and on this floor were the bedrooms and private sitting-rooms of the family, placed on the same level as the gallery pew of the chapel, with which they communicated. By this arrangement a great extent of accommodation was obtained.

On the two principal fronts, namely, the southern and the eastern, the existence of the mezzanine floor is masked. The windows are of similar height and design to those of the hall, and the central division of the window is occupied by a panel, corresponding with the floor within. On the northern and western sides the position of the latter is frankly recognised, and the two storeys of ground floor and mezzanine have separate windows arranged with distinct cills in the ordinary way.

The semicircular window of the chapel is the most prominent detail of the north front, and in it we find the only trace of Gothic traditions, apart from the general adoption of mullions and transomes throughout the building. Although these details are freely used, all the lines of the windows are regular, and all the openings rectangular ; but in the chapel, and there only, we find the windows with arched and trefoiled heads, the arch being semicircular, and the cusping in accordance with Late Tudor examples. The old style had still, we may suppose, a flavour of ecclesiasticism, and thus could not be denied a resting-place in the chapel of the mansion

I have before alluded to the staircases of the Transitional era as having interest and beauty, and Crewe Hall is rich in the possession of one of the finest of existing specimens. It is entirely of oak, elaborately worked and carved, and of excellent and sound design and construction. It is a newel staircase, built round a central well-hole.

The more ordinary plan of staircases was a system of long flights, few in number. Here we have a different principle, and it is interesting to notice again that it is a principle commonly followed by Italian architects. They did not, indeed, form well-holes as at Crewe This is peculiar to the time and country, and follows naturally from the material employed. The Italians built for the most part stone staircases, with a solid central pier, and stairs around it in numerous short flights. Here also we have numerous flights, but the pier is replaced by a well-hole, with massive wooden newels at the four angles.

The staircase at Crewe is not only beautiful architecturally, but is also very easy and convenient. It occupies, moreover, little space, being not more than 24 feet square from wall to wall, while the height of the storey is 20 feet. The shortness of the flights and the frequency of the landings secure great ease in ascending, and from the compactness of the plan no unnecessary distance is traversed.

I cannot advise young architects too strongly to study the planning and design of staircases In domestic works they will often be tied down strictly to the necessary expenditure, without much margin for indulgence in architectural display ; but the staircase is a necessity, and there is always a resource for the skilled artist. Everyone knows the ugly and inconvenient chicken ladders which do duty as staircases in most modern London houses; and nothing, I think, marks more clearly than the design of the staircase the difference between an architectural composition and a builder's box.

The beauty of the staircase at Crewe has always been recognised by artists, and I believe the late Mr. Stanfield once adopted it as the subject of a great picture, which he painted for a drop-scene at Drury Lane Theatre. With its handsome newels, carved and panelled, surmounted by quaint animals with heraldic cognisances, its richly-wrought balustrade and picturesque arrangement, this staircase is certainly one of the most interesting examples of the skill of the builders of the seventeenth century, both in the art of design and the science of construction.

The staircase led to the great reception-rooms and principal guest-chambers. These were all on the first floor and looked outwards, in the English manner, commanding distant views. The whole of the northern side was occupied by the usual long gallery, a charming room, well adapted for reception or for exercise. The other apartments were principally sitting-rooms, and were approached through each other—an arrangement which our ancestors appear to have thought unobjectionable. There were a few attics and small bedrooms for servants, but most of the latter must have been accommodated out of the house.

The ceilings generally are of great elaboration, and in some cases of much beauty, and there are large and curious chimney-pieces reaching up to the ceiling. One of these, in a guest-chamber which the late fire did not reach, represents, in a rude manner, the murder of Abel by Cain—not a very cheerful subject, one might think, for a nervous visitor, fresh from the perils of the road.

We find in the whole arrangement of Crewe Hall an amount of domestic comfort which was highly characteristic of the progress of the country in prosperity and attention to the liberal arts The execution of the ornamental details was good, particularly the carpenter's work; and although the sculpture of the human figure was strained and uncouth, as was usual at this period, there was underlying the whole work a motive principle, the development of which, by workmen skilled in artistic taste, would have produced a result of a highly satisfactory character.

As it was, and notwithstanding all drawbacks, Crewe Hall was a splendid specimen of the taste of the Transitional epoch, a noble example of the mansion of the old English gentleman

It is curious to notice the formality which had now taken possession of such structures and their adjuncts. It was the reaction probably from the picturesque irregularities of Mediæval work, although this quality in the latter is far from being as common as is often assumed The Mediæval architects did not indeed shrink from irregularity, whether of plan or elevation, when circumstances naturally gave rise to it; but they did not gratuitously set themselves to work to design irregularities and invent picturesqueness, as many of their modern imitators would seem by their practice to fancy.

The Elizabethan style also did not forbid elasticity, although such buildings as Longleat and Crewe illustrate the taste for more formal design, which was becoming fashionable. It not only pervaded the house, but extended to the adjoining grounds. It displayed itself in formal plantations and terraces, following, very evidently, an Italian impulse. The terrace at Haddon exhibits some original details, but the Elizabethan architects usually borrowed balusters, terminals and piers from foreign models. Thus at Crewe we find a terrace with balusters of forms common in Italy, and divided into bays according to well-known precedent.

The love of formality and imitation passed from the house to the garden itself, which was laid out in stiff forms and patterns, with terraces ranged one above the other, approached by steps, and decorated with balustrades. Formal enclosures were favoured with bowling-greens, labyrinths and mazes, and it seemed the object of man to put nature in fetters. Even the plantations were to be reduced to obedience, and were clipped and tortured into fantastic shapes. Hedges became walls and streams canals.

There is a very interesting example of an Elizabethan garden at Levens, in Westmoreland. Here the trees and shrubs are made to resemble every shape but their own, and the aspect of things has been maintained by the owners without alteration from the time of the original foundation of the place You will notice many instances of similar principles of formal arrangement of the grounds at Crewe; not, indeed, as it at present exists, but in the paintings of its original condition.

In these pictures you find the stiff garden, with flower-beds of geometrical patterns; there are straight walks, a rectangular fish-pond and high enclosure walls, instead of hedges The offices are in detached buildings, each made to resemble the other. A straight walk gives approach to the house through a square courtyard. A central flight of steps leads to the hall door in the middle of the façade, while on the right and left there are regular balustrades, with stone piers and ball terminals upon them.

At the other end of the straight walk, and at its point of junction with the park, there is shown in the picture an arched gateway of interesting design. The arch is semicircular, and the opening is closed by solid-looking and richly-moulded wooden doors. Detached columns flank the opening on either side, and the whole is surmounted by elaborate scrolls, into which are worked the heraldic cognisances of the family. On each side of the gateway are brick walls, extending to the right and left, so that the whole enclosure is about equal in width to that of the house. At the angles there are small buildings or outhouses, designed in strict accordance with each other.

These buildings, together with the archway and enclosure, have long since disappeared, and the grounds around the Hall were laid out in a more modern fashion some years ago by the elder Nesfield. The arrangement of the forecourt could indeed scarcely have been retained as tolerable, for as the archway was not wide enough to admit carriages, no one could have driven up to the front door—an arrangement not very suitable now, though it was probably convenient enough in the days of sedan chairs and running footmen.

At Crewe, as at Longleat, the Italian taste for symmetry had succeeded to the irregular picturesqueness of Gothic architecture, and these were but instances of what was doing elsewhere. In all parts of the country a similar movement was apparent, coupled with many lingering attempts to retain the beauty of the past—to combine the old with the new.

A taste for profuse internal decoration prevailed—a decoration not of the true artistic character which calls for the co-operation of the sister arts of painting and sculpture (and without which, be it observed, there can be no decoration worthy of the name), but a decoration of masons, plasterers and carpenters, with much striving in the dark, and half realisation of good intentions.

The walls of rooms were handed over to the carpenter, and he covered them with oak panelling, generally extending from floor to ceiling. In many cases, as in the "Carved Parlour" at Crewe, he shared his task with the plasterer, and allowed his comrade space for a deep and elaborate frieze above the panelling. Here, accordingly, were Gods and Goddesses, or Vices and Virtues, that display a splendid ignorance of the laws of anatomy and of the human form divine. There was, however, frequently much grace and skill in the design of the whole, both in its general composition and in the disposition of the parts, and when scroll work was employed it had a curious intricacy and a characteristic elaboration which produced a handsome effect.

The object seems to have been to cover the whole surface of the walls with constructed decoration. Nothing was left to the taste of the future occupants. The builders had everything their own way, and wished to turn out their work complete in its parts, a production *factus ad unguem*.

AN EARLY BASILICA.

THE excavation of the site of the late church of S. Maria Liberatrice has been carried out without intermission, and has at last put us in possession, says the correspondent of the *Globe*, of one of the most interesting ecclesiastical ruins in the Christian world; perhaps the earliest basilica dedicated to the Virgin in Rome, as well as having restored to light the fountain of Juturna, with its various decorative sculptures. It is a basilica having a total width of 55 feet, with a narthex and atrium occupying the inner or innermost hall of the augusteum. It has been a storehouse of fresco-work, the remains of which are abundant if fragmentary. These mostly pertain to the eighth century, when the building evidently underwent extensive restorations at the hands of Paul I. The figure of this Pontiff, uncovered in 1702 and again in 1885, with a rectangular nimbus, to the left of the figure of Christ, is still recognisable on the terminal apse. Hard by, on the right wall, appear portions of underlying frescoes of much earlier date, *i.e.* that of Justinian. On another, the eastern wall of the left aisle, occurs a series of frescoes describing the lives of Saints Quiricus and Jolita. Around the head of one of the figures, who holds the model of a church, Commendatore Boni has discerned and deciphered a Mediæval (eighth century) inscription, which confirms the title given to this church in the early centuries of Christianity. The words are much mutilated, but the most important concluding ones are these:—"Virgo Maria que appellatur antiqva."

The history of this basilica is naturally of extreme interest, seeing that it arose on one of the most memorable sites in Rome. To have been called "antiqua" in the eighth century carries with it no little significance; but to have been dedicated to the Virgin within a stone-throw of the lately defunct cult and convent of the Vestals, the former guardians of the safety of Rome, carries a great deal more.

It became a "Diaconate," and as such holds the first place on the ancient list of the Diaconates of Leo III. (795). In the ninth century it would seem to have been destroyed by earthquake and abandoned. The Diaconate, with its eleemosynary establishments, was then transferred to S. Maria Nova (now S. Francesca), near the Arch of Titus, on the Sacra Via, by Leo IV. (847).

AN OLD ROMAN MONUMENT.

AUTHORITIES differ as to the origin of Hexham, says the *Genealogical Magazine*, Dr. Bruce pronouncing it, however, to be "undoubtedly Roman." There is certainly no doubt as to the antiquity and importance of the "Town upon the Holy Stream," which was of some note even during the time of Roman occupation. Even if not a Roman station, it would seem to have been a place of residence of certain wealthy Roman officers not immediately connected with the Great Wall, but in its near vicinity, various stones and other remains unearthed in recent years favouring the supposition of large Roman villas having stood there. At Hexham, about the year 660, Wilfrid built his church, of which the crypt is now the sole remaining portion.

In 1881, with a view to discovering a further portion of the crypt, certain excavations were made beneath the floor of the slype (or long porch), near the entrance-door. No crypt was found, but a curious large sculptured stone was unearthed. This being discovered by an official of the abbey, was brought to the surface carefully, portions of cement and the accumulated rubbish of centuries were removed, and it was proved that the stone was a most interesting memorial tablet, and probably had covered the remains of the youth whose name and style it bore. Antiquaries place its date at about the second century, it being found under the foundation wall of Wilfrid's church. The slab represents a Roman standard-bearer carrying the eagles; he is in typical Roman armour; beneath his horse is a crouching barbarian, nude (the Ancient Briton in warfare so fought putting off all clothes for easier movement and flight), and with upturned, clumsy weapon, with which one supposes he killed the foe riding over him. The inscription below is nearly all decipherable :—

"DIS . MANIBVS . FLAVNVS
EQ . ALAE PETR . SIGNIFER
TVR CANDIDI AN XXV
STIP VII HS."

A classical scholar roughly translates it :—"To the Gods, the Shades. Flavinius, knight of the Petriana Cavalry, standard of the squadron of Candidus, aged twenty-five. Time of service seven years. (Here lies.)" One can imagine that some high Roman official resident at Hexham may have borne from the bloody battle-ground some miles away the body of his gallant son, and interred it at Hexham, raising over his last resting-place the mighty sculptured stone.

Petrina on the Wall was garrisoned by the Petrian ala or cavalry wing, of which each Roman legion had one. The legion consisted of from 4,000 to 5,000 men, and the ala of about 400 men, but Dr. Bruce tells us the Petrian ala was 1,000 strong. They were usually all knights, so the young standard-bearer was probably of noble family. The above-mentioned numbers of the Petrian legion and the Petrian ala show that this legion was of unusually large size and importance.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

The New Century.

SIR,—Is it creditable to the intelligence of our age—this age of schools and secondary education—that when the nineteenth century comes to a close the majority of people seem incapable of recognising the fact, and that after nearly twelve months reflection they still remain unable to make up their minds on the subject? The Pope has said that the new century begins this month, and that may perhaps settle the question throughout the greater part of Christendom. On the other hand, Lord Kelvin has said that the century began last January, and for obvious reasons he is as little disposed to argue the point as the Pope.

The truth is that it is almost an impertinence, an insult to men's common sense, to enter into a serious argument on the subject, the point being so manifest to ordinary men. But it is a remarkable fact that a committee charged with making the arrangements for the meeting of the British Association at Glasgow in 1901 take the view of the Pope in preference to that of Lord Kelvin, and in a circular issued about six weeks ago they speak of the Glasgow meeting as the first to be held by the Association in the new century. In the face of such contradictory opinions there is some excuse for the doubts and perplexities of more ordinary mortals. But there is no reason why they should be allowed to make doubts and perplexities an excuse for indulging in festivities and religious services to inaugurate the new century after it is a year old. The present chronological muddle does not create a mere temporary confusion, but if it can be held that a new century must begin with a 1 instead of with an 0, as hitherto, it would mean a complete overturn of our present mode of reckoning.

The present divergence of opinion is not merely inconvenient, but also sometimes very trying to the temper. For example, we lately heard a preacher, referring to Rousseau and Byron, say that the one was a great poet of the last century, and the other a great poet of the present century—a century not yet a year old. Or again, at the same public meeting you may hear one speaker refer to the South African campaign as one of the greatest events of the nineteenth century, while another, referring to the same subject, speaks of the bloody strife as the twentieth century's baptism of blood.

The pertinacity with which in some quarters the error is upheld, as well as the prevailing uncertainty, seems to justify a serious attempt to make this very simple subject if possible plainer still, and to show that the answer to the question, Are we now in the nineteenth or the twentieth century? turns not on matters of opinion but on matters of fact.

Perhaps the members of the Glasgow committee we have mentioned, a committee comprising many of the best known scientific men of the city, perhaps they will be good enough to clear our way a little by explaining one or two preliminary difficulties. For example, if they call 1800 nineteenth century, how do they also call 1900 nineteenth century? And they might also explain how they manage to begin a century or any other period of time with a 1. Can they give a single precedent for this? Then what are we to understand by the figures 1900? Do they denominate the beginning or the end of a recognised period of time, or neither? Have we any right to change the 8 into a 9 till the nineteenth century has been completed? Is it consistent with chronological rules to denominate any specific period of time an hour, a day, a year till it has been completed? It is evident that a good deal depends on the answers to these questions, and also that they are not very easily answered consistently with the theory that the twentieth century does not begin till 1901.

It is simply impossible to justify the use of both 18 and 19 to signify 19th, and it is equally impossible to find a precedent for beginning any enumeration of time with one, for the simple reason that we cannot name any period which has not an existence. The truth is that the mistake which the Pope and many less fallible philosophers have made is the old folly against which we have often been warned—that of counting our chickens before they are hatched, giving a figure to a thing which has no existence. If we are collecting money in small sums we do not set down anything in the shilling column when we have only got 10*d*. We say nothing about shillings—nothing appears in either the shillings or pounds columns, nor do we record anything about pounds while we have only 18*s*. When we have 20*s*. then we make an entry for the first time in the pounds column. But, observe, there was no such thing in existence as this shilling till the twelve pennies had been received, and there was no such thing as the pound till the twentieth shilling had been received; till that moment they could not be denominated, and if their place in the money column had to be temporarily filled it must be filled by a cipher. Now if you make a chronological table with the same number of columns, one for months, another for years, and a third for centuries, we have precisely the same conditions. After a child is born you can only speak of it for a time as an infant of days, and by-and-by as a child of so many months. Years are never mentioned, as no such period, much less centuries, have occurred in the child's history, and the year column remains blank till twelve months have elapsed, and not till then can the cipher be replaced by a 1. It is then one year since the birth of the child. In the meantime the century column has necessarily remained vacant; there has been no century, and you cannot enumerate it till it exists. The last of the hundredth year must have sped before you can put one in the century column. Now anyone will see at a glance that whenever you are entitled to put that 1 on the record you are at liberty to speak of the first century, but not till then, as till then it had no existence; and they will also see that as it came into existence at the end of the hundredth year, a complete period, with neither an hour too much nor an hour too little, it necessarily follows that the next second after its completion formed part of a succeeding period, commenced another day, month, year, or century, as the case might be.

It will also be seen that the new century begins with a cypher just as the first did, and that cypher must remain there on our record just as the first did till another cycle has rolled by. You can never get quit of that cypher as the first of any decennial period.

Perhaps after they have explained why they call 1800 nineteenth century and also call 1900 nineteenth century, those who say the twentieth century did not begin last January will have the goodness to tell us how they manage to begin this century with a 1 instead of a 0. We have seen that according to all recognised chronological rules this cannot possibly be done; how then does His Holiness manage it? It may perhaps assist some who are unaccustomed to sustained thought to understand the difficulty if they will look for a little at the familiar face of a clock. Suppose we wish to measure off a period of ten hours after noon, do we begin as soon as the clock strikes twelve to say it is now one? For a time there is nothing to record but minutes, and until sixty of these have passed there is no such thing as an hour. If we have to record the state of matters after fifty-nine minutes are passed, we must write no hours fifty-nine minutes (0 59), but when the sixtieth minute has been completed the clock strikes one, and we know that an hour has passed. Thereafter we may speak of the hours as they pass, waiting till two, three, four *have passed*, and so on till we come to ten, when counting back on the dial we see that we have got the full number indicated, viz. ten. Will any person in his senses say that we have to wait till eleven strikes before the ten hours have been completed? Each of these hours comprising exactly sixty minutes, anyone can understand that the first minute that passes after ten o'clock has struck cannot possibly belong to the ten hours which have preceded, and therefore that that minute and all its successors must necessarily belong to another period of ten hours, which commenced when the clock struck. It is precisely the same when we deal with years and centuries.

When a century is complete as it was on December 31, 1899, it is impossible to add a day or an hour to its duration, but every succeeding day must necessarily form part of a succeeding period of time, and as the first century commenced with nothing, all future centuries, and, indeed, all decennial periods of time, must also commence with nothing, as the twentieth century did in January last.

Some may think that the historical accuracy of the date assigned to the birth of Christ must be considered in relation to the point at issue, but the two things have no relation whatever. Whether rightly or wrongly, a date is fixed by universal consent, and our enumeration begins there, and no inaccuracy in the naming of that day could affect the mode of beginning the enumeration or the infallible sequence of the years and centuries. If we wish a clock to tell us when ten hours have passed it does not require first to be set to Greenwich time. If the clock goes rightly it will give the required information as exactly if it were an hour before or an hour behind the Greenwich clock as if the two clocks marked each second in unison; and so, if the birth of Christ occurred either before or after the date fixed as the commencement of our era, that could in no way affect the accuracy of the time recorded. On January 1, 1899, the ninety-ninth year of the nineteenth century had run its course, and the hundredth year had begun. At the close of 1899 we were exactly nineteen centuries from the commencement of our era. The hundredth year of the nineteenth century had sped, and we had added 1 to 99, which necessitated an alteration of the two first figures denoting centuries, and changed the 8 into a 9, which must now remain unchanged till another 100 years has elapsed and the twentieth century has been completed. Will anyone who thinks otherwise explain why the figures representing centuries were changed last New Year's Day. The only possible justification for the change was that the last completed year of the century fell to be added to the ninety-nine which had preceded.

The only explanation of the confusion which has existed since that change is that people have forgotten that the figures record the completion of a period, not the commencement of one.—Yours truly,
JOHN HONEYMAN.
140 Bath Street, Glasgow.

Geysers in Bathrooms.

SIR,—Referring to a letter in your issue of the 21st inst., although we did not make the geyser in question, yet, as we have for many years supplied geysers for use without flue, we trust you will allow us space for the following remarks:—

The unqualified assertion that "no geyser is safe without a flue" is, we consider, disproved by the fact that thousands have been so used for years past without accident.

Geysers made with luminous flame burner and with internal arrangements for absorbing or "condensing" the products of combustion have little or no effect on the air of an ordinary bathroom. A small room of less than 400 cubic feet should certainly be ventilated, but this applies to any room, whatever the system of heating, as the heat and steam or a single gas jet would cause inconvenience in so small a space. The simple provision of a fixed ventilator near or in ceiling effectually prevents this, and in a room so ventilated a geyser of the type above mentioned could be safely used without further provision.

We are by no means opposed to the use of flues when they can be conveniently fitted, but frequently there are great difficulties in the way, and in such cases we are of opinion that no hesitation need be felt in fitting a geyser as described, provided that the room, if small, is ventilated.—Yours truly,

For Maughan's Patent Geyser Co., Limited,
T. E. BARRALET, Managing Director.
Geyser Factory, Holywell Row, Finsbury, E.C.:
December 31, 1900.

The London County Council and Tramways.

SIR,—There will be decided opposition from the leading inhabitants of Fleet Street and the Strand to the Bill which is being promoted by the London County Council giving them powers to lay tramway lines along the Embankment. The only pleasant road from the Houses of Parliament to the City is *viâ* the Embankment, and it would be a piece of vandalism for the Council to obtain powers to run trams along it. I sincerely trust that the press will most energetically fight against such a piece of County Council madness.—I am, Sir, yours obediently,
LONDONER.

GENERAL.

The Peterborough Cathedral Restoration Committee state that the funds at their disposal are entirely exhausted, and that consequently they are compelled to stop the works until further subscriptions are forthcoming.

Lord Brassey will bear the expense of the erection of a handsome reading-room and institute, with a large hall, at Catsfield, Sussex, near which he resides.

The Death is announced of Mr. Louis Movio, teacher of metal work at the Central School of Art, Birmingham. He was a native of Italy, and for many years was an assistant to Mr. A. Gilbert, R.A.

An Archæological Congress is to be held in Athens, and it is expected the King of Greece will send invitations to authorities in England, France, Germany, Italy and Switzerland on the subject.

M. Max Collignon has been appointed professor of archæology to the Faculté des Lettres de Paris, in succession to M. Perrot.

M. Daumet, the French architect, on the recommendation of the Minister of Public Instruction, has been raised to the dignity of Commander of the Legion of Honour.

Mr. M. H. Baillie Scott will read a paper on Monday next before the Liverpool Architectural Society, entitled "The Planning of Small Country Houses."

The Winter Exhibition at the New Gallery, consisting I a collection of the works of Sir William B. Richmond, R.A., will open on January 9.

The Corporation of Guildford, the County Council of Surrey and the Navigation Commissioners have decided that the new bridge to be erected at Guildford will be of steel, and is to cost 6,000*l*.

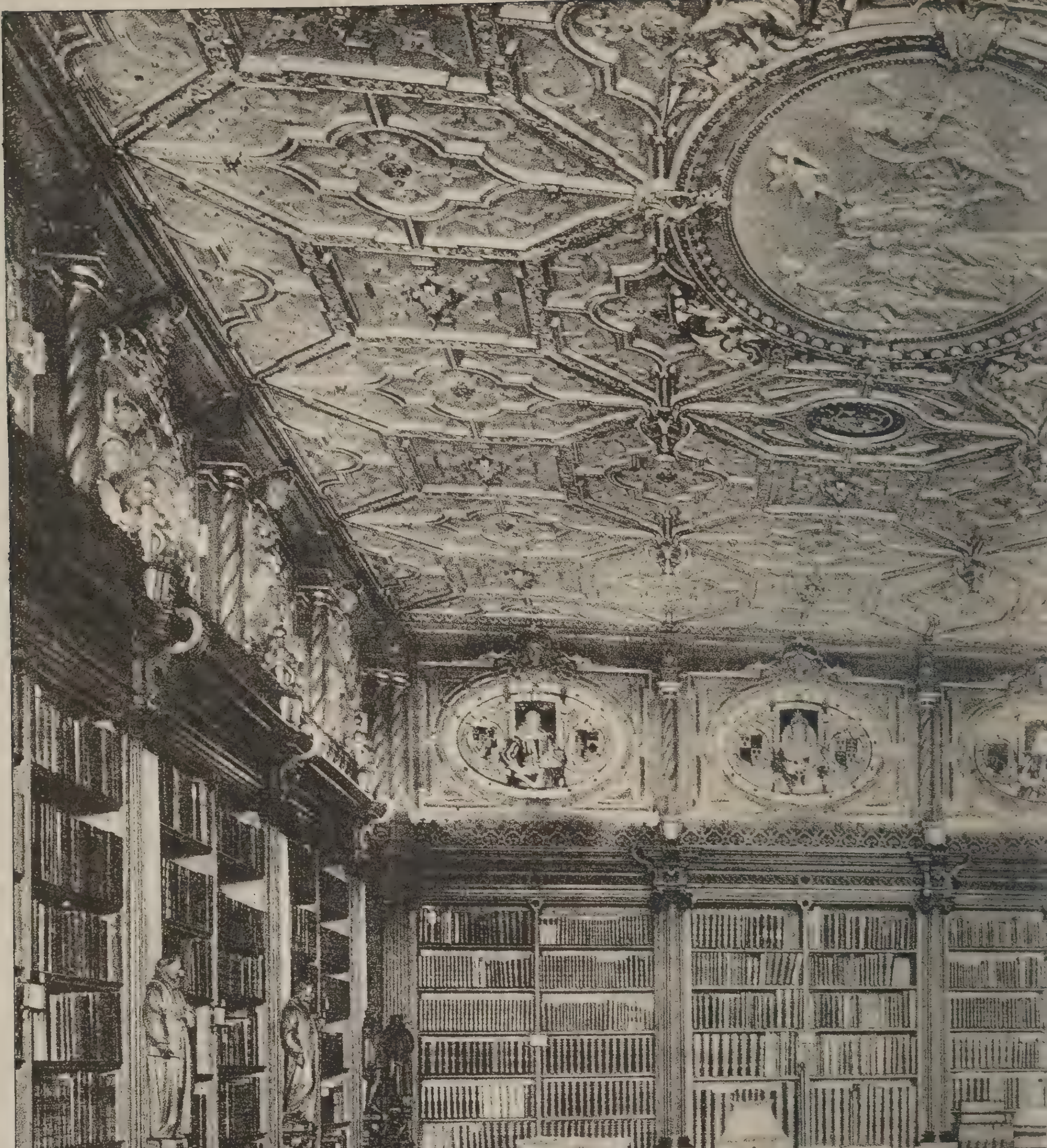
The Paris Bourse is to be enlarged by the addition of two wings, which will make it a cruciform building. The cost, estimated at 4,000,000 francs, will be defrayed by the brokers, whose rental will be fixed at 200,000 francs.

Mr. L. Solomon will, at the meeting of the Institute of Architects on Monday, propose the following resolution:—"That the Institute is responsible for the inferior position of architects as compared with that of other professions, and that a committee be appointed to inquire into the causes of this inferiority of status and to suggest remedies."

Two of the Stones of the outer circle of Stonehenge fell on the evening of Sunday last. One of them is a large upright Sarsen stone and the other is the lintel, also of Sarsen, with yellow gravel and flint embedded in it.

The Secretary of State for India has decided on a remodelling of Coopers Hill College, which necessitates the retirement of the following gentlemen from the appointments which they hold at the college:—Mr. T. A. Hearson, professor of hydraulic engineering, &c; Mr. H. McLeod, F.R.S, professor of chemistry; Mr. W. N. Stocker, M.A., professor of physics; Mr. A. H Heath, assistant professor of engineering; Mr. T. Shields, M A., demonstrator in physics; Mr. P. Reilly, demonstrator mechanical laboratory; Mr. J. C. Hurst, lecturer in accounts.

Messrs. Lavers & Westlake ask us to state that the two north aisle windows in St George's Cathedral, Southwark, are their work, and were designed by Mr. Westlake.



FROM A PHOTOGRAPH BY J. BULBECK & CO., 166-8 STRAND, LONDON.

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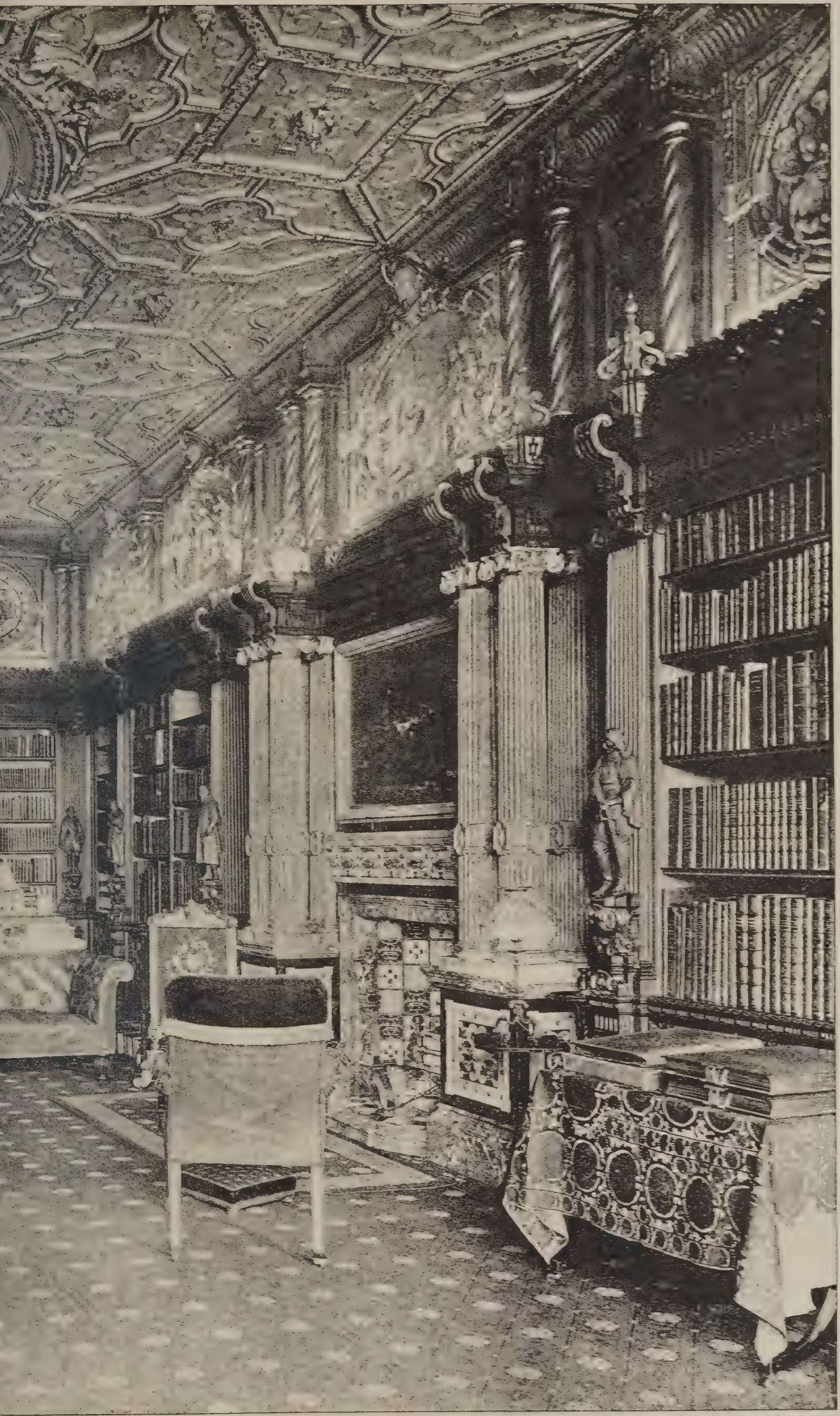
The late E. M.

Jan 4th 1901.



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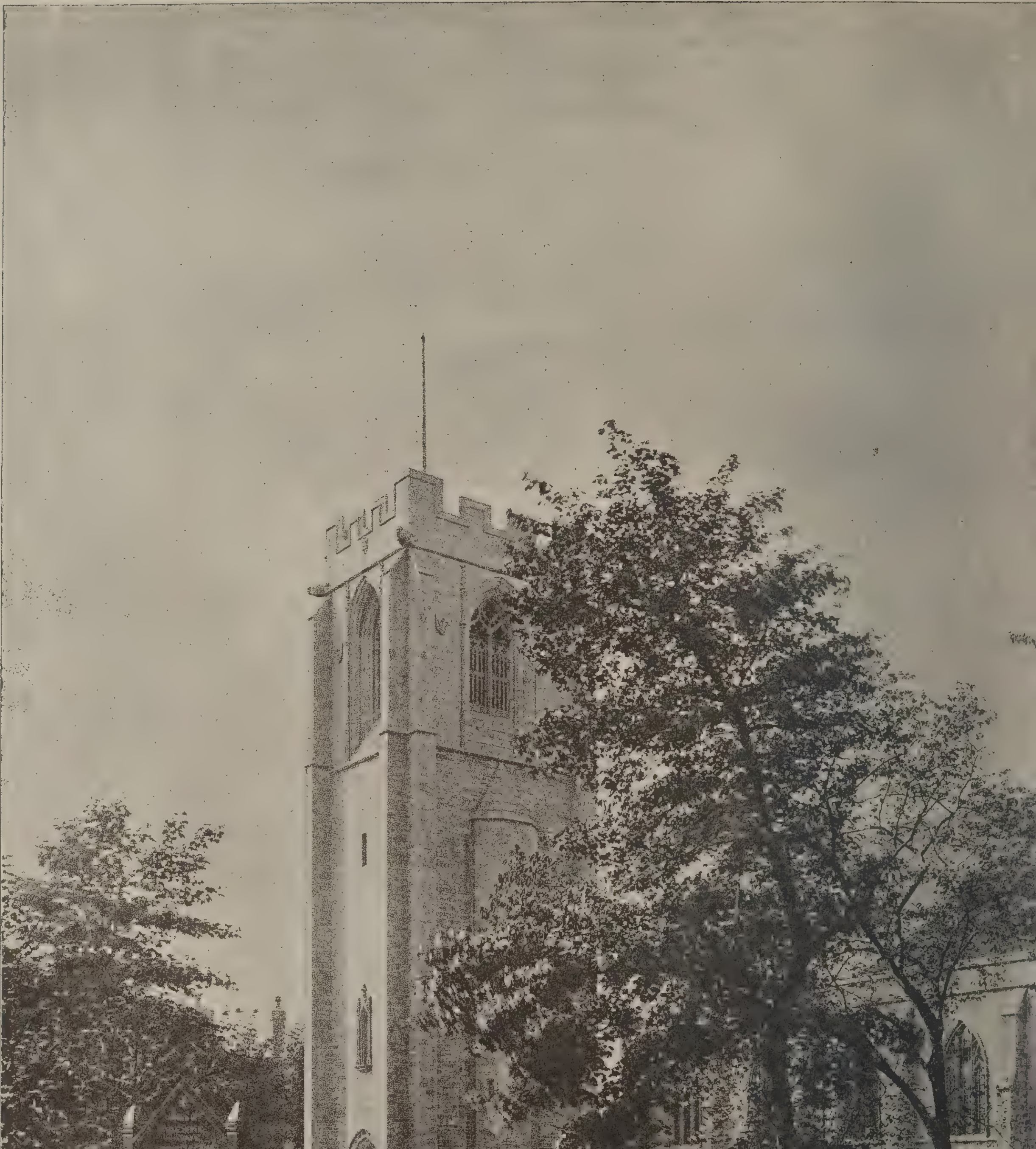
RRY, R.A, Architect.



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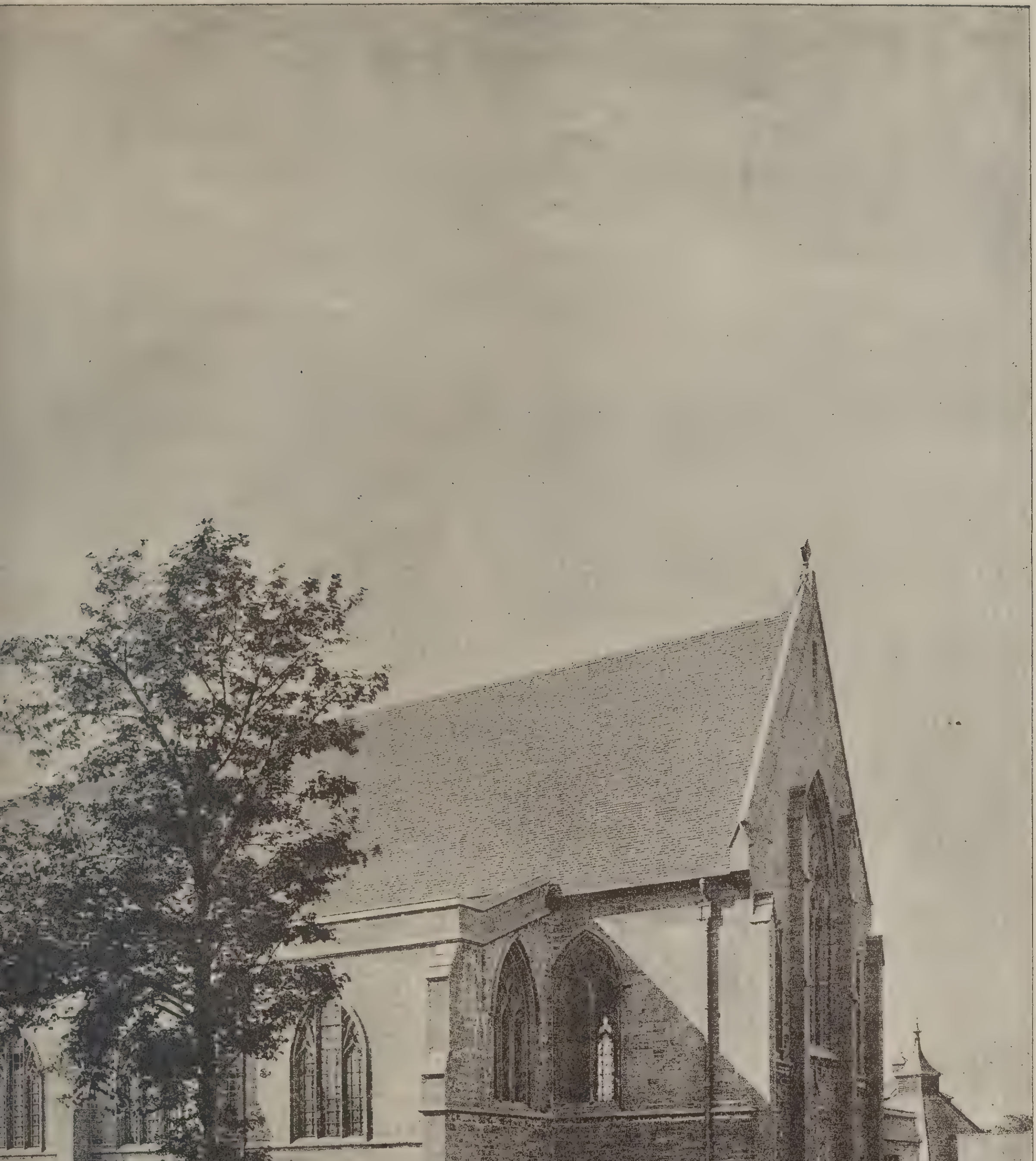

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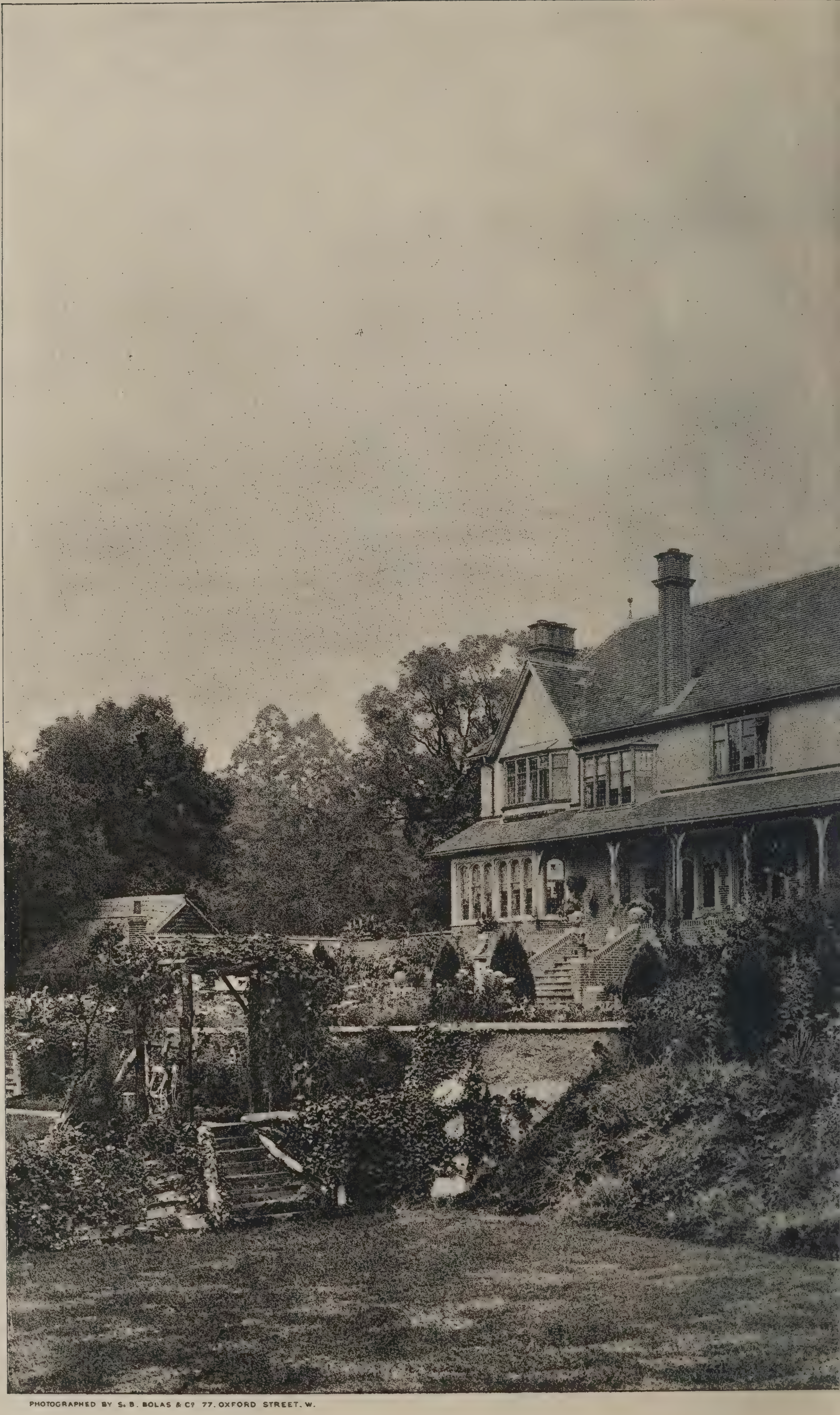

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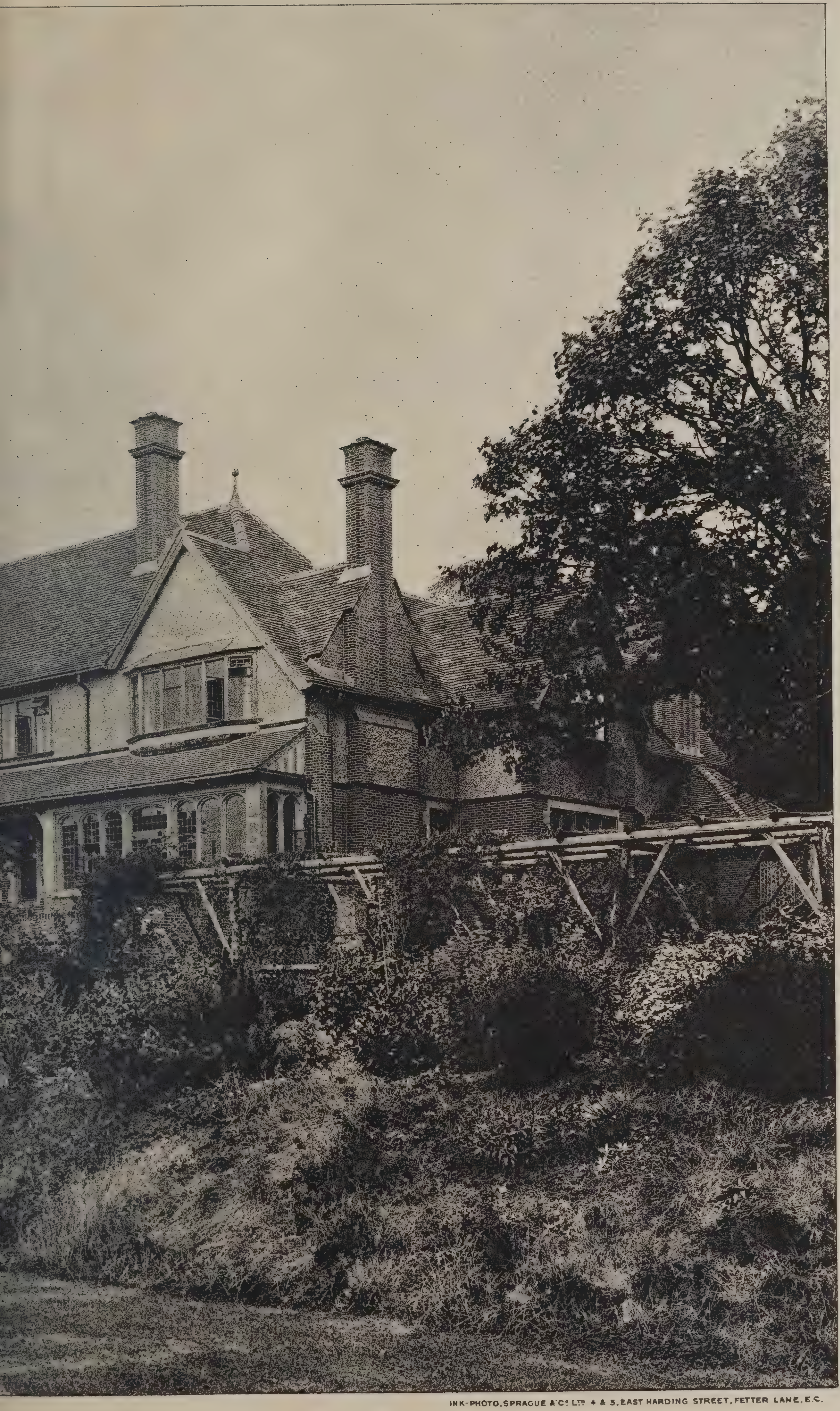
“THE CROFT,” TOTTE

T. E. COLLCUTT



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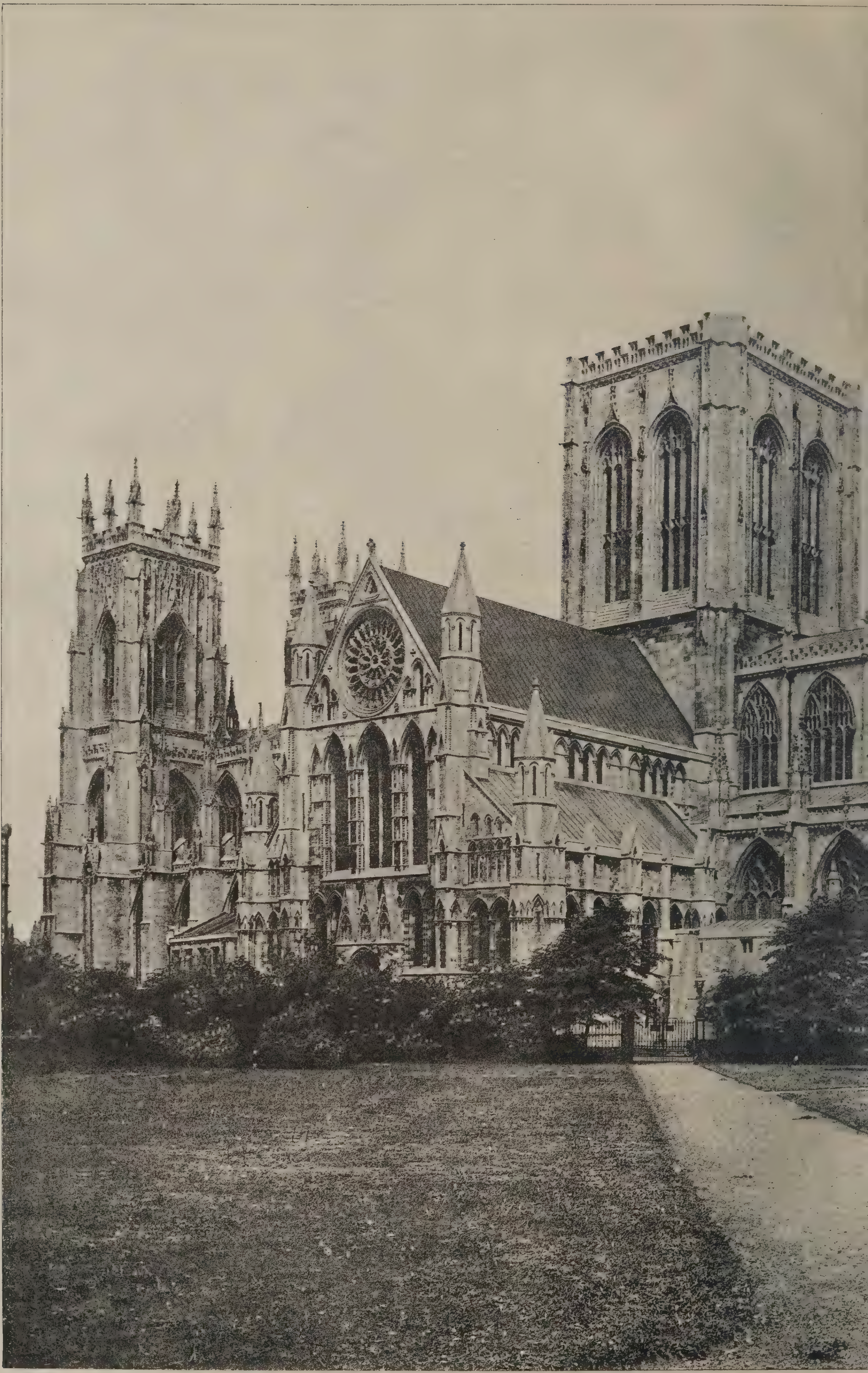
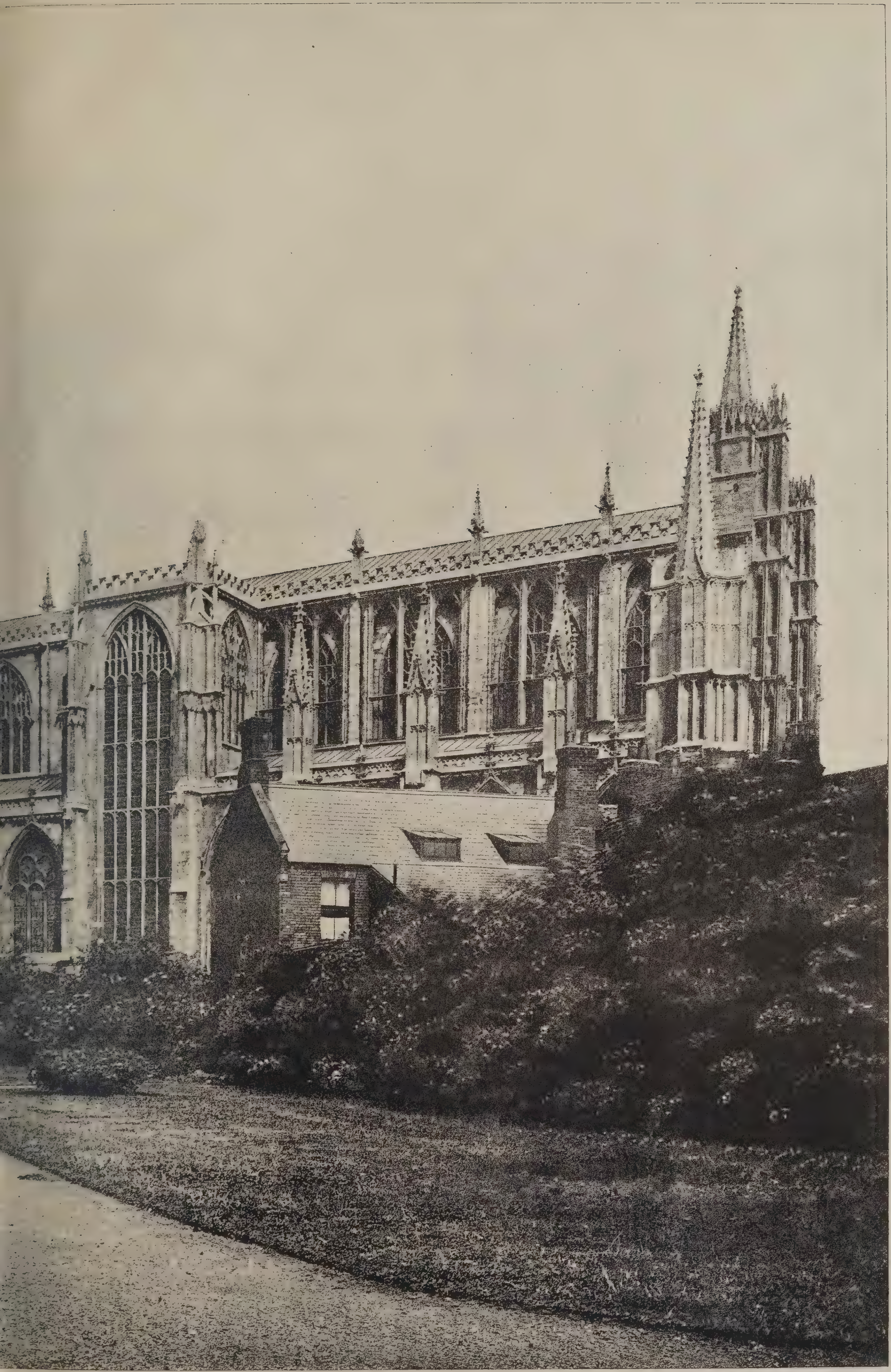
GE: From South-East.

R I.B.A., Architect.



CATHEDRAL SERIES, NO. 315.—YORK MINSTE



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GENERAL VIEW OF EXTERIOR FROM SOUTH-EAST.

The Architect.

THE WEEK.

MR. GLOVER, the president of the Northern Architectural Association, has resolved to signalise his tenure of office by raising a special fund for the benefit of the Association. As it is his own suggestion, Mr. GLOVER will take the principal share in the list of donations. He has offered to give 500*l.*, or, under certain conditions, double that sum—generosity which is, we believe, unexampled among the holders of the presidential office in architectural societies. Subscriptions have been already promised by Messrs. THOS. OLIVER, J. OSWALD, A. B. PLUMMER, H. C. CHARLEWOOD, J. WALTON TAYLOR, J. GARRY, T. K. WHITE. With such a beginning the success of the fund may be assumed. It would be an advantage if Mr. GLOVER's liberality were more often imitated. Compared with those representing other professions, the architectural societies can hardly be said to stand on sound financial foundations, and one of the causes of the want of esteem in which architects are held may arise from what is known about the difficulty of making ends meet, especially in the provincial societies.

WHEN there is a contest between beauty and convenience in construction the former is sure to succumb. An illustration is to be found in the arrangements for the new town bridge of Guildford, which turned on the merits of steel against masonry. A committee of the Town Council obtained a design from Mr. WEBSTER, C.E., for a steel bridge, which was estimated to cost 5,869*l.* A design by Mr. HALSEY RICARDO for a masonry bridge, to cost 5,500*l.*, was also submitted. The committee came to the following conclusion on the merits of the two designs:—"As the estimates for the stone and steel bridges respectively are at present about the same, and the committee are advised that the stone bridge will require fifteen months for construction, and that the steel bridge can be erected in eight months, and having in mind the fact that the steel bridge will be constructed in one span, whilst the stone bridge will have three arches, with the necessary supporting piers, and also that the gradient of the steel bridge will be less steep than that of the stone bridge, the committee recommend the Council to adhere to its decision in favour of a steel bridge, and to carry out the plans prepared by Mr. WEBSTER." The traders of Guildford are evidently divided on the subject, for one party memorialised in favour of the stone bridge, while the other advocated the steel bridge. There was a discussion, but the Mayor's argument that with arches there was a risk of blocking up and flooding carried the point in favour of the one-span bridge, and there was no voting.

SOME years back we reproduced M. EHRMANN'S cartoon *The Arts, Sciences and Literature of Antiquity*, in which the greatest men of Greece were introduced. It was prepared for the tapestry workers of the Gobelins, and the piece on its completion was placed in the Bibliothèque Nationale. A companion piece, designed by the same able artist, *The Arts, Sciences and Literature of the Middle Ages*, is now ready to be placed in the library with a smaller panel illustrating *The Manuscript*. The Gobelins factory has at the same time completed several other fine examples of weaving. One piece is intended for the Elysée, in which the attributes of the Republic have been introduced with skill from the designs of M. JOSEPH BLANC, whose *History of Clovis* appeared in this journal. The painting by LE BRUN, *An Audience with the Legate Chigi*, has been prepared for the Musée of Versailles, and a repetition of BOUCHER'S *Aminta and Sylvia* will be placed in the palace. A scene from a tournament, about 20 feet in length, from the design of M. JEAN-PAUL LAURENS, is to be hung in the vestibule of the building containing the national archives.

NOWADAYS an amateur would not care much for collecting or commissioning views of London at the present time. But apparently there was at least one gentleman who in the eighteenth century was proud to gather illustrations of the Metropolis, all of them painted in oils. The collection has been on view this week at CHRISTIE'S Rooms, and will be sold to-morrow. Among the pictures are views of Gracechurch Street, showing the Monument and St. Magnus; Smithfield Market, with St. Paul's in the middle distance; Old London Bridge, with the houses on it, and the churches of St. Magnus and St. Michael's, Crooked Lane; Skinner Street, Holborn; the Pool below London Bridge, with the Tower Wharf and its trees; and St. Dunstan's Church, Fleet Street. There are several of old Westminster Bridge and Lambeth Palace; Old Palace Yard, showing the old front of the great hall and the Exchequer buildings, with the old coffee and public houses. Others show Leicester Fields, with Savile and Leicester Houses; the Adelphi and York Gate; the garden of Somerset House, with the stairs, and London Bridge and St. Paul's in the distance; two of Charing Cross, with Northumberland House and the statue of CHARLES I.; St. James's Park and Rosamond's Pond; Old Putney Church and Bridge; Battersea, with the church and curious old truncated mill and the wooden bridge. The Gate-house, St. James's Palace, looking down Pall Mall towards what is now Trafalgar Square, forms another subject; also the Horse Guards towards the park and the Admiralty beyond, and a view of Bloomsbury Square, with Bedford House and Lord MANSFIELD'S house. A collection of that kind should not be dispersed. The paintings would be in their right place in a Metropolitan museum. The Parisians have their Musée Carnavalet, which is being constantly enriched by gifts relating to the history of the city. Is it not time the London County Council endeavoured to start such a museum? And if the law does not allow of the application of funds for the purpose, it would not be difficult to obtain an Act empowering the Council to do so.

FAR away in the north of Scotland stood the abbey of Kinloss, which was founded in 1150 for Cistercians from Melrose. It was visited by EDWARD I. and EDWARD III. when they invaded Scotland. According to Messrs. MACGIBBON and ROSS, "Till about 1650 the buildings of the abbey are believed to have remained tolerably entire. They were conveyed in 1645 to BRODRIE of Lethen, by whom the materials were sold to be utilised in the construction of CROMWELL'S citadel at Inverness. The chapter-house had been used as a place of worship up to that time, and it was found necessary to erect a new church in lieu of the chapter-house, which had been removed." All that remains of the church is a part of the south transept, with part of the eastern chapels and a long vaulted chamber. The plan of the church must therefore be conjectural. The abbey is now possessed by the Rev. J. A. DUNBAR DUNBAR, and he has been making excavations. It is supposed he has discovered the bases of the piers which supported the central tower, as well as other columns, besides fragments of tracery, stained glass and many carved stones. All the weak places in the walls have been strengthened, and it is said that what remains of the abbot's house is to be put in proper order. Mr. DUNBAR is no doubt inspired with the best intentions, and he may be treating the ruins with reverential good sense; but it would be more satisfactory if we were assured that he was not carrying out his operations without the aid of an architect who had studied Scottish Gothic buildings.

THE cost of the basilica of the Sacré-Cœur, Paris, up to the end of 1900 has been 35,090,000 francs, or 1,400,000*l.* Much costly work remains to be executed. The square belfry, which is to dominate the dome by over 100 feet, is about to be commenced. The summit will be about 800 feet above Paris, and will therefore be the highest point in the landscape. It is anticipated that the sounds of the great bell will be heard at Beauvais, Fontainebleau, Orléans and Soissons. The electric light is also shortly to be introduced in the interior, and at least one thousand lamps will be required. The high altar will be the most important object in the building. M. RAULINE, the architect, went expressly to Sienna in order to select the marbles of which it will be constructed. It is expected that the altar will take five months to finish.

THE HOUSING PROBLEM IN LONDON.

IN London, and indeed in most of the large towns in England, the problem of providing dwellings for the humbler classes by public authorities has been complicated by the opposition, or at least by the indifference, of the majority of ratepayers. People think that, like other social problems, it should be solved by those who are to gain by the settlement. It is commonly said, for example, that if a part of the money which is wasted on intoxicating drink were expended in the form of rent, there would be no need to abstract municipal funds for the erection of dwellings. It is possible for observers to point out a great many individual instances of representatives of the working classes who are badly housed because they are improvident, and it does not seem fair that other people should have to pay for rescuing them from the dangers which are inseparable from squalid houses.

Although that argument is always applicable, investigations have shown that a large class of the poor who do not indulge in the luxuries provided by the publican are unable, in spite of the strictest economy, to pay more than an insignificant rental. They are consequently doomed to live in dwellings where there are risks of disease, through which they may become dangerous to others. Mr. Charles Booth found in an area which was adapted for testing purposes that 35 per cent. of the population received less than 21*s.* a week wages. He calculated that in the district no less than 316,000 of the inhabitants were in that position, and that 129,000 among them were deserving people who were endeavouring to bring up their families in a honest way. The portion of the 21*s.* which can be applied to the paying of rent must necessarily be small. But one of the inspectors of the London School Board informed the Royal Commission on the Housing of the Working Classes that about 88 per cent. of the poorer workmen of London expend more than one-fifth of their incomes on rent, thus leaving only 12 per cent. who pay less than one-fifth. What sort of accommodation can be obtained in London for a family when only 4*s.* is to be paid for it? Who can wonder if overcrowding still prevails to an extent which baffles the efforts of the sanitary authorities? And yet at the beginning of 1899 the valuer of the London County Council calculated that 14,000 acres of vacant building land within the metropolitan area were available for the erection of dwellings which would accommodate the working classes.

Although, as we have said, the majority of ratepayers cannot be considered as favourable to the application of municipal funds towards the erection of improved dwellings, it must be allowed that between 1855 and the present time creditable efforts have been made by the Metropolitan Board of Works and the London County Council to deal with the difficulty. It should also be remembered that both bodies did not receive that assistance from the local sanitary authorities which is necessary in carrying out important projects relating to public health. But vestrymen and others were more closely connected with the great mass of the inhabitants, and they knew that public opinion in their districts was not partial to a costly expenditure on workmen's dwellings. The record of the results will be found in a volume prepared, at the instance of the housing of the working classes committee of the Council, by Mr. W. J. Russell and Mr. M. H. Cox.

The Metropolitan Board of Works endeavoured to overcome the difficulty, without exciting opposition to a dangerous point, by providing sites and disposing of them to companies who guaranteed to erect the required buildings. But the expedient was most costly. Indeed, it almost seemed that the whole procedure for the obtaining of the worst class of property only added to the expenses. In the Whitechapel and Limehouse scheme the arbitrator's award was 130,741*l.* But when the legal costs and other expenses were paid, the cost rose to 176,041*l.* In another scheme at Whitechapel the award was 170,823*l.* and the cost 350,351*l.* In a third case at Southwark the award was 24,310*l.* and the cost 65,283*l.* In the fourth, or Bedfordbury scheme, the award was 37,769*l.* and the cost 84,146*l.* The condition of the last property may be taken as a sample of what the people of London were purchasing so expensively. The official description is as follows:—

> The area, as represented, consisted of the houses in and the courts and alleys running off the long and narrow thoroughfare known as Bedfordbury. The courts were very narrow, being in many cases not quite 4 feet wide. The houses were in almost all cases worn out and dilapidated, so much so, in fact, that in some instances the roofs had fallen in. The passages in the houses were so narrow that the raising of one's elbows would cause them to touch the walls on each side, and so dark that even when the morning sun was shining brightly outside it was necessary to feel every step taken. The drains were in a thoroughly rotten state, and the basements were frequently used for the storage of filth, from which offensive stenches were emitted. In many cases the same cistern supplied the water both for drinking and sanitary purposes, and frequently where there were water-closets it was found they were not used, the yards bearing undeniable evidence of the filthy habits of the occupants. Through ventilation was present in hardly any case, and the buildings were so crowded on the land that any attempt to render the houses constructionally fit for occupation could not have improved their condition from a health point of view.

What is needed when dealing with property of that class is a benevolent despot who will apply the simple test of compelling the owners or leaseholders to reside for a certain time in the houses they own. If they refuse, as is inevitable on account of the danger to themselves, then let the property be treated like any other nuisance, and removed. But at Bedfordbury the property cost the Metropolis more than double its value. In Great Wyld Street, where the death-rate was about forty per thousand, the value of the property was 79,482*l.* and the cost 121,266*l.* It is needless to go through all the schemes undertaken and completed by the Metropolitan Board of Works from 1875 to 1882.

There were other schemes of which the preliminaries were arranged by the Board, but which had to be taken up and finished by the County Council. It was found that private companies were not willing to take the sites subject to the conditions of the Board. The County Council declare they were compelled to undertake the erection of dwellings on the vacant ground, beginning with the Beachcroft Buildings at Ratcliff, which cost 12,936*l.* Other projects followed. Then in 1890 the Housing of the Working Classes Act was amended and gave additional powers to the County Council. One of the most important schemes which exemplified the provisions of the Act is known as the Boundary Street scheme. On the area, before operations, lived many representatives of the criminal classes. In one street there were sixty four persons who had had experience of penal servitude, and the death-rate was about 40 per thousand, while the average for all London was 18. The works were completed in March last, and we are told that the buildings are so arranged that nearly every room commands a pleasant outlook. The Prince of Wales was able to say that although the outlay was about 633,000*l.*, it was not large in proportion to the benefits that were secured. The County Council have entered upon other schemes, but the expenses have been larger than were originally contemplated. On this subject the following explanation is offered:—

> The cost of building operations has materially increased since the Council began itself to undertake the erection and control of dwellings. It may be well to indicate briefly the ways in which this has come about. The chief causes appear to be increases during the last seven or eight years in (*a*) the cost of materials and in (*b*) the rates of wages paid to workmen. There has been at the same time a decrease in the number of bricks laid in a day by each workman. The increase perhaps has been most remarkable in the case of bricks, 42*s.* per 1,000 or thereabouts having been paid during 1897 and 1898, whereas in 1890 30*s.* or 35*s.* per 1,000 was the ordinary price. Cement also has increased in price by about 20 per cent. and iron and steel work by about 27 per cent. Rates of wages have risen in the case of labourers, by three instalments of ½*d* per hour, from 6*d.* per hour in 1890 to 7½*d.* in 1897 and since. Bricklayers' wages too have increased from 9*d.* to 11*d.* per hour. The combined effect of this rise in the cost of materials and rates of wages and decrease in number of bricks laid per diem has been to raise the price of brickwork per rod from 11*l.* in 1890 to 20*l.* 15*s* at the end of 1898.

Up to the end of March 1900 the capital expenditure of the Council on sites they selected was 449,489*l.*, and on sites upon which the Council had no option but to build, as no purchasers could be obtained for the land, 120,215*l.*, making a total of 569,704*l.* The net cost of sites purchased by the Metropolitan Board of Works was 1,323,415*l*. As the estimated net cost was 759,424*l*., it will be evident that the sum paid for the ground was nearly double the amount anticipated.

The County Council can also claim the credit of making the Cheap Trains Act more operative. The Act was passed in 1883, but several of the railway companies acted as if they wished the clauses to lapse by want of use, and the Board of Trade characteristically declined to take the initiative. But soon after the formation of the Council the subject was taken up. There were conferences with railway companies, and eventually they succeeded in making the Act a reality. But it is a striking fact that at the present time there is no authority on whom devolves the duty of making representations under the Act on behalf of the working classes of London. The County Council have no authority to expend money in prosecuting inquiries or taking proceedings against any company that has failed to provide an adequate service. It will suggest the growing necessity which in London compels the labouring classes to live in the suburbs when it is stated that in 1882 the number of workmen's daily tickets was not quite eight millions, but in 1896 the number was over thirty-one millions. It is hardly necessary to add that building workmen are largely represented in those figures.

The County Council have realised the value of names. On the Millbank estate the blocks of buildings will be called after Hogarth, Leighton, Millais, Romney, Rossetti, Turner, Ruskin, Gainsborough, Reynolds, Lawrence, Maclise, Landseer, Mulready, Morland, Wilkie. We hope in some other places architects and sculptors will be similarly commemorated. The Clare Market scheme will be associated with the names of Sheridan, Beaumont and Fletcher.

It is stated that "the total number of persons for whom dwellings have been or are being erected now amounts to nearly 32,000, or rather more than the residential population of the City of London, according to the census of 1896. The total cost of these operations is 2,930,000*l*., of which a sum of 1,200,000*l*. is attributable to the work of clearing away unhealthy areas, the cost per head being therefore 53*l*." In addition, the sums expended by artisans' dwellings companies between 1847 and 1891 should also be considered. They amount to 5,815,492*l*. The approximate number of persons accommodated was 119,148, the cost per person working out to under 49*l*., which is less than the average of the County Council. But it should be taken into account that while the Council's land is freehold, the majority of the companies have to pay ground rents, in one case amounting to 2,714*l*. per annum; 50*l*. per head should, therefore, be regarded as a moderate sum for calculating the cost of workmen's dwellings in London.

In spite of the enormous expenditure, there is still an almost appalling quantity of habitations in London which are unfitted to be used as dwellings for human beings. It cannot be said that the example set by philanthropists and authorities like the County Council has had much effect in inciting the landlords and leaseholders of such property to attempt improvements. On the other hand, it is satisfactory to note, for it may eventually lead to a transformation of slum property, that the tenants of workmen's dwellings are becoming more critical and exacting. Self-contained tenements are now in demand. The official area of 110 square feet for bedrooms is thought to be insufficient, and one of at least 120 square feet is sought. The Home Secretary is also making the regulations more stringent. The number of persons using a staircase has been limited; all habitable rooms must have a provision of a 45 degrees angle of light; through ventilation is also essential and open lobbies are required. If occupants will not be satisfied with unhealthy and uncomfortable dwellings, there will be more likelihood of improvements than by remonstrances to owners from good people. The action of the working classes would, moreover, be likely to have the effect of persuading the Government to approve of compulsory measures which would do away with the crying evil without adding to the already oppressive burden on the ratepayers. It is said that in Dublin 2,700 houses were closed without payment of compensation to the owners under the Public Health Act of 1875. No less vigorous and economical operations are needed in London.

A GERMAN VIEW OF MODERN ENGLISH ARCHITECTURE.*

"To see ourselves as others see us" is supposed as advantageous for nations as for individuals. Much depends, however, on the character of the observer. There are many representatives from countries about whose remarks Englishmen are indifferent. It is otherwise with the Germans. It would be profitable for us if we could have revealed the observations on war and trade organisations which are regularly sent to Berlin and are pigeon-holed for future reference. No defect is likely to be extenuated, and probably much is set down in malice, but we are convinced the investigations have been continuous and that efforts are made to discover causes for the defects or for the successes. An example is to be found in Herr Muthesius's remarks on the English architecture of the present day. He is an official, but we do not suppose that what he writes about buildings was dictated by any desire to facilitate the assessment of them, should the occasion ever arise for the payment of a tribute to Germany. As regards modern architecture in England, it would be a gain if any merits it possesses were universally known. We therefore are glad to see so much exactitude in the descriptions and illustrations which are to be found in the new publication. The text reveals in almost every line the pains which the author must have taken to arrive at the truth, and we have only to compare it with essays in which French architects have endeavoured to describe our modern architecture in order to perceive the difference not only between individuals but between two races. The German, being more of a philosopher, endeavours to get at the root of things and to explain why they assume one form rather than many others. Or we may suggest the value of Herr Muthesius's work in another way, that is, by imagining that an English architect had been asked to write a book on modern German architecture. Can we suppose that it would be satisfactory to his countrymen or to the Germans?

The degree of tact possessed by a writer may often be discerned in the choice of a text for a discourse. When we find the author placing a couple of sentences by William Morris at the head of his essay on the development of English architecture, we realise at once that he has grasped a truth which is being acted on at the present moment in England. The words are as follows:—"The manner in which our buildings, and especially our houses, are built is really the foundation of the whole question of art. A picture may be hidden in a drawing-room, a book may remain unopened on a library shelf, a drawing or engraving shut up in a portfolio; but a house is always in evidence to injure every passer-by by its badness, or benefit him by its goodness." The adoption of the words indicates that the author comprehends the influence which the ancient English house has exercised over modern buildings of a different character and purpose. The "Profanbauten" which we can see about us in the form of recent municipal buildings, offices, hospitals, schools, have a domesticity in external appearance which is a sufficient testimony of their relationship to the English house of a former period.

In tracing the development of modern work the author does not, however, go further back than the Gothic Revival. It was a revolt, he says, against the fetters of Classicism, and was one which was inevitable with all Germanic races. They could not endure to be held down by Italian influence. Germany had its revolt also, somewhat later than the English, but as there was less unity among the people it was not followed by the substantial results to be found in Great Britain. Moreover, Gothic was more of a stranger in Germany than in England. The modern dislike to the style in France arises from the belief that Gothic signifies German, but it ceased to be a national style of the Fatherland at an earlier time than in this country. In England, it is pointed out by Herr Muthesius that Gothic buildings were raised until the middle of the seventeenth century. Germany, from its position, was however subjected to foreign influences, and palaces and other buildings were erected by Italian or French architects, as if in that way good taste alone could be attained. In England, the architects Jones and Wren, who were most successful in treating Italian forms, were Englishmen, and it was only under peculiar circumstances they would have ventured to remove a Gothic building.

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* "Die Englische Baukunst der Gegenwart: Beispiele neuer Englischer Profanbauten, mit Grundrissen, Textabbildungen und erläuterndem Text." Von Hermann Muthesius, Königl. Regierungsbaumeister, zugeteilt der Kaiserl. Botschaft in London. Cosmos, Verlag für Kunst und Wissenschaft, Leipzig und Berlin.

The affection for Gothic was never entirely extinct, and, therefore, when Horace Walpole produced his "Castle of Otranto" towards the end of the eighteenth century, he found an intelligence sufficiently fascinated by antiquity to admit as probable all that was said about the great staircases, the gigantic hand in armour, the dungeons, trap-doors, oratories and galleries, the supernatural machinery, the spectre, the moonlight visions and many other prodigies. Walpole wished to show his consistency, and therefore his town house in Berkeley Square was Gothicised, and he erected a Gothic castle with pie-crust battlements at Strawberry Hill. Herr Muthesius does not accept them as examples of earnest building, but as mere dilettanteism, for the Gothic castle was no more than a lath-and-plaster structure. But through Walpole the old architectural spirit was revived, as is evident when we find Beckford expending 5½ millions of marks on the creation of the Gothic Fonthill. Walpole was only a precursor of Sir Walter Scott, who infused life into the dead bones of Gothicism, and to whose spirit Herr Muthesius renders justice. With him, he says, the enthusiastic retrospect of the Middle Ages may be said to have commenced. There were, no doubt, great books like Dugdale's "Monasticon" which related to Mediæval archæology, but they were intended for a peculiar class of scholars. Scott popularised and animated the information that was to be found in them.

Something more than books was needed for the adoption of Gothic as a style for general use. No writer could fulfil the office of A. W. Pugin. It is explained that when he was a boy of thirteen he helped his father in measuring buildings and drawing views of them. Two years later he was designing furniture for Windsor Castle. His activity was untiring and assumed many forms, and he was as dexterous with the pen as with the graver. His French temperament leavened English thought ("wirkte wie ein Sauerteig in der trägeren englischen Gedankwenwelt"). The slumbering crafts were also awakened by his efforts. Puseyism had brought about a reaction against the established arrangements in churches, and it was necessary to erect Gothic buildings to be in keeping with the new ritual. For secular buildings Gothic did not find so much favour, but the erection of the Houses of Parliament was an important event towards the extension of the style. Barry's success in dealing with Gothic details amazes Herr Muthesius, although he is of opinion that it would have been better if Barry had been allowed to employ the style to which he had given most attention. In the interior he was able to obtain the co-operation of Pugin, and the execution is excellent considering the circumstances. But Classic still retained its hold. The British Museum and St. George's Hall, Liverpool, were erected at the same time as the Houses of Parliament. Both styles found adherents, and for forty years the contest between them was sustained in a manner that could not be understood on the Continent.

It is with the Gothic side the author is concerned, and he explains that Sir Gilbert Scott took the leadership and held it for about twenty years. His reputation was not confined to England, for he succeeded in the competition for the church of St. Michael at Hamburg, and obtained a prize for the German Parliament House at Berlin. The churches he erected in England are described as countless, as well as his restorations. But the latter class of work will not, it is said, insure his renown hereafter, for it was his desire to leave an ancient building as if it were new. Under Scott English Gothic entered on one important phase of development ("eine wichtige Schwenkung"), for he adopted some of the forms which were characteristic of continental Gothic. His contemporaries began also to study French wall decoration, and consequently not only Scott, but Street, Pearson and Bodley imported foreign elements and amalgamated them with English.

Outside ecclesiastical buildings the new Gothic was not fortunate. The programme for the offices at Whitehall had prescribed a modern style at the time of the competition. Scott was compelled to transform his accepted design into a conventional Italian building, which to a continental observer is without any interest. Street succeeded in having his Gothic design of the Law Courts realised, but it only earned general disapprobation. The official opinion was that for public offices Gothic is unfitted. That was the death sentence of Gothic, and consequently in the new public offices now in progress Classic Italian forms were insisted on.

Secular buildings form the theme of Herr Muthesius, and especially houses. He does not believe that Gothic, old or new, was able to exercise much influence over domestic architecture in this country. What is essential to the Englishman is, he says, comfort, and he is not disposed to sacrifice it to other principles, however true. The five volumes of the "Vitruvius Britannicus" reveal efforts to be indifferent to the soaring rhetoric of Palladianism, and to come nearer to the old Elizabethan style. Gothic forms were employed to some extent in domestic buildings, but the unsuitability became more manifest on the appearance of Mr. Norman Shaw, who is described as the founder (Begründer) of modern English architecture—a position similar to that accorded to A. W. Pugin in Gothic.

Herr Muthesius, before taking up the new school, deals shortly with the influence of pre-Raphaelitism on domestic architecture. He ascribes to Rossetti the foundation of it, and says that Madox Brown, Morris and Burne-Jones looked up to him as their master. There is no doubt that in the efforts which were made by Morris & Co. to introduce a special and costly mode of furniture and decoration Rossetti bore a share, but not an important one. As far back as 1869 Morris ceased to derive any help from Rossetti, and in 1875 the friendship between them came to an end. Indeed, the two men were so unlike in character, the associateship really lasted not more than a year or two. There are several people who admire Rossetti without any clear knowledge of what he did. They credit to him a power which he never possessed, and which was not much exhibited in house decoration. With more reason Herr Muthesius refers to John Ruskin as an influence. But Ruskin's admiration for cottage industries prevailed over comparatively few people, and while we are willing to admit to the fullest extent that much is due to the memory of Ruskin, we cannot go so far as to accept the statement that the leading position now occupied by England in domestic art is owing to him. It is admitted by Herr Muthesius that neither Morris nor Ruskin would have succeeded but for the activity exercised at South Kensington. By loan collections which were exhibited throughout the land, the English were shown what had been done in preceding ages. It is, no doubt, allowable for him to claim that the idea and development of the South Kensington Museum were owing to a German, the late Prince Consort, while the best and clearest of the official advisers on all that related to art industries was another German, the architect who was a political refugee in London, Gottfried Semper.

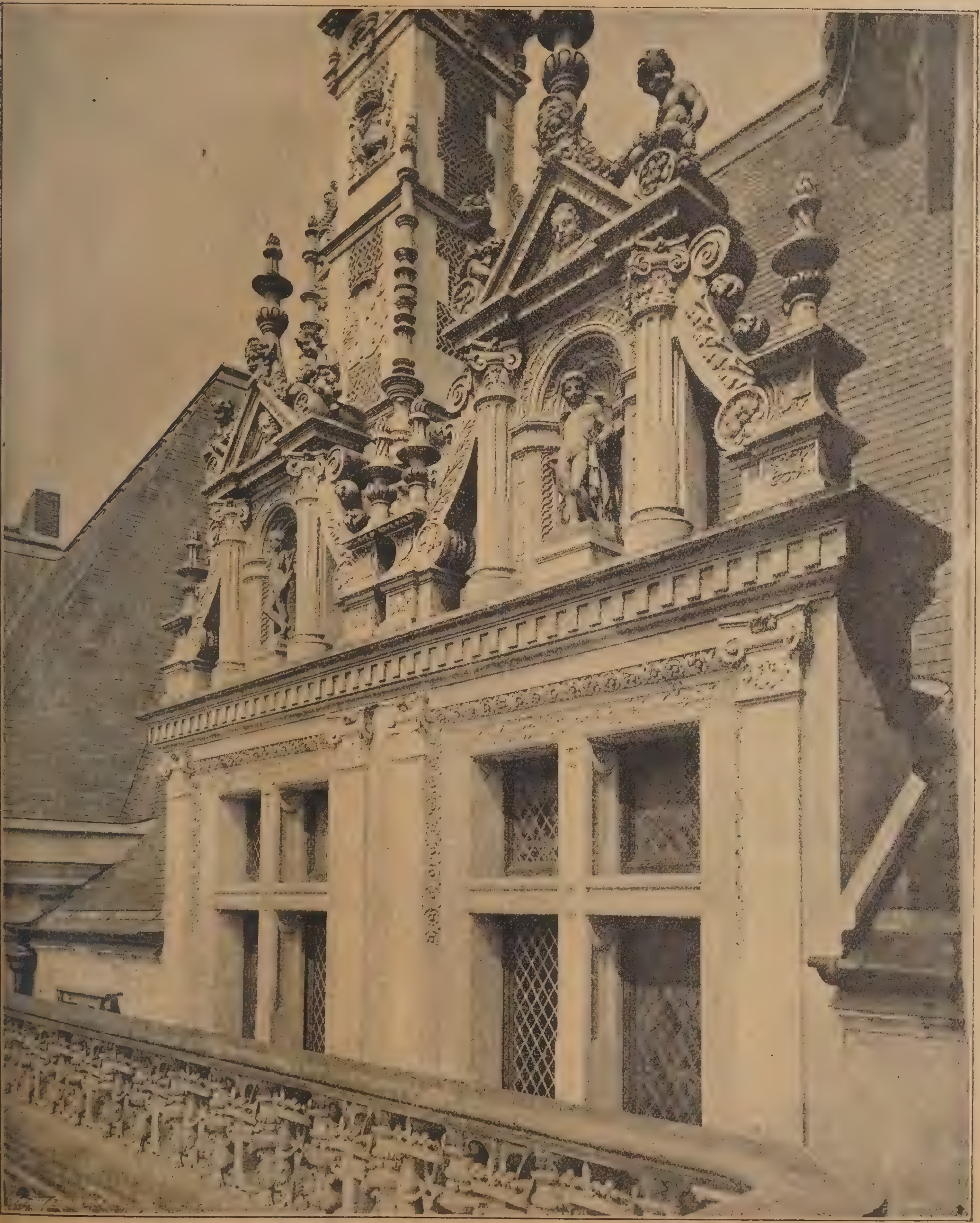
What Herr Muthesius says about the living representatives of the modern style is too interesting to be noticed at the end of an article, and we therefore defer the consideration of it until next week. Meanwhile we may mention that the work appears in large portfolio size, and is illustrated by excellent photographic plates of secular and domestic buildings in London and elsewhere.

Mr. William Ryland, of Sheffield, has bequeathed the drawings originated and designed by himself of the life of Shakespeare to the Memorial Theatre at Stratford-on-Avon, the water-colour pictures to be hung in the theatre gallery, bearing the inscription "The William Ryland (Sheffield) Bequest." Those of his pictures that do not find purchasers are to be given to the Birmingham Corporation Art Gallery.

The Institution of Mechanical Engineers will hold its annual general meeting in the Institution House, Storey's Gate, St James's Park, on Friday evening, January 18. Professor J. A. Ewing will on Monday, January 14, deliver a special illustrated lecture at the institution on "The Structure of Metal" to the graduates

CHATEAU DE BLOIS.

IT is believed there was a fortification on the site of the Château de Blois when the Romans occupied the region. But no older work can be traced than the great hall, which dates from the thirteenth century, and the round tower known as the Moulin. A wing adjoining the hall was erected by LOUIS XII. in the fifteenth century. Between the hall and the Moulin is the wing of FRANCIS I. This latter part is generally thought to be the most interesting portion of the château. It shows that in the sixteenth century, although there was an appreciation of Italian detail which is remarkable, the French builders were not disposed to forsake the principles which they had inherited from their Mediæval predecessors. The windows in the façade of FRANCIS I. are not arranged at regular distances for the sake of symmetry. They are placed in positions where they are best adapted for lighting the chambers. As the pilasters were determined by the positions of the windows, we consequently find a large area which from the



CHÂTEAU DE BLOIS:—LUCARNES.

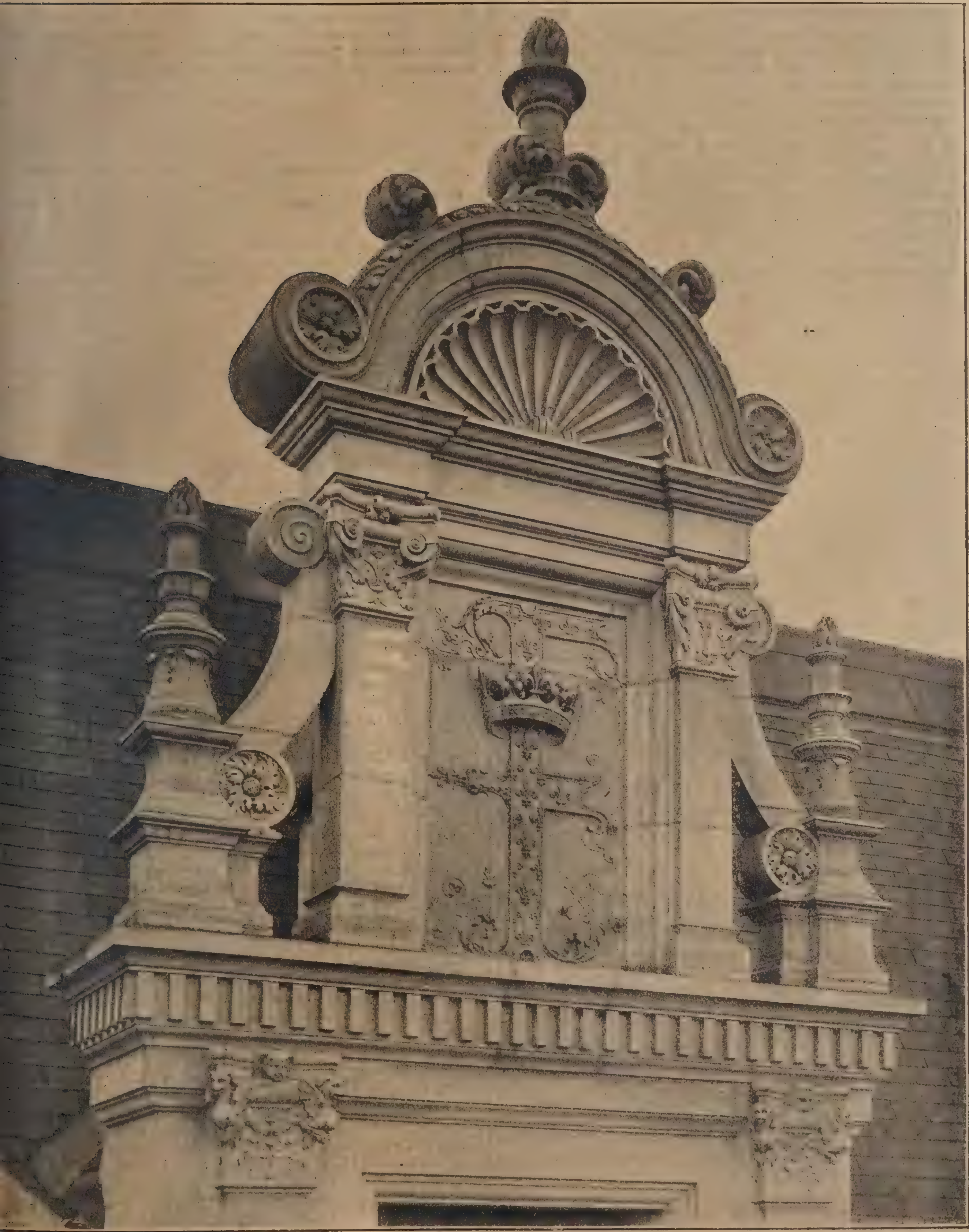
ground to the roof presents varieties of division which would have shocked an Italian. In fact, there is more regularity of spacing in the older work of Louis XII., although it was erected half a century earlier. The exterior of the wing erected by Francis I. had to adapt itself to the interior arrangements, and if any Italians were engaged in the operations they must have suffered for tolerating a practice which was not in keeping with their own principles.

The windows and pilasters would receive less consideration if it were not for the grand staircase, that is so daring an innovation as to express most strongly the spirit by which the windows and other parts of the façade were constructed. The latter may be more subdued in style, but they display no less courage than is seen in the great staircase. We have already published a large illustration of the exterior of the staircase, and we now give a view of the *lucarne* which is above it and two of those which adjoin it, with a part of the cornice and balustrade and one of the chimneys.

CHÂTEAU DE BLOIS:—ENTRANCE TO STAIRCASE.

FRANCIS I. was a rather flighty spouse, and could not be taken as a model of marital fidelity, but in the balustrade he entwined C.s and F.s, out of compliment to his wife CLAUDE, the daughter of LOUIS XII., to whom he was successor. In the same spirit Cupids are introduced in niches over the *lucarnes.* FRANCIS, however, thought that a court without ladies was like a year without spring or a spring without roses, and during his reign he was under the dominion of women who did not hesitate to sell State secrets to his enemies. But throughout the part of the Château of Blois that he erected it is either his own initial or his crest, the Salamander, which prevails.

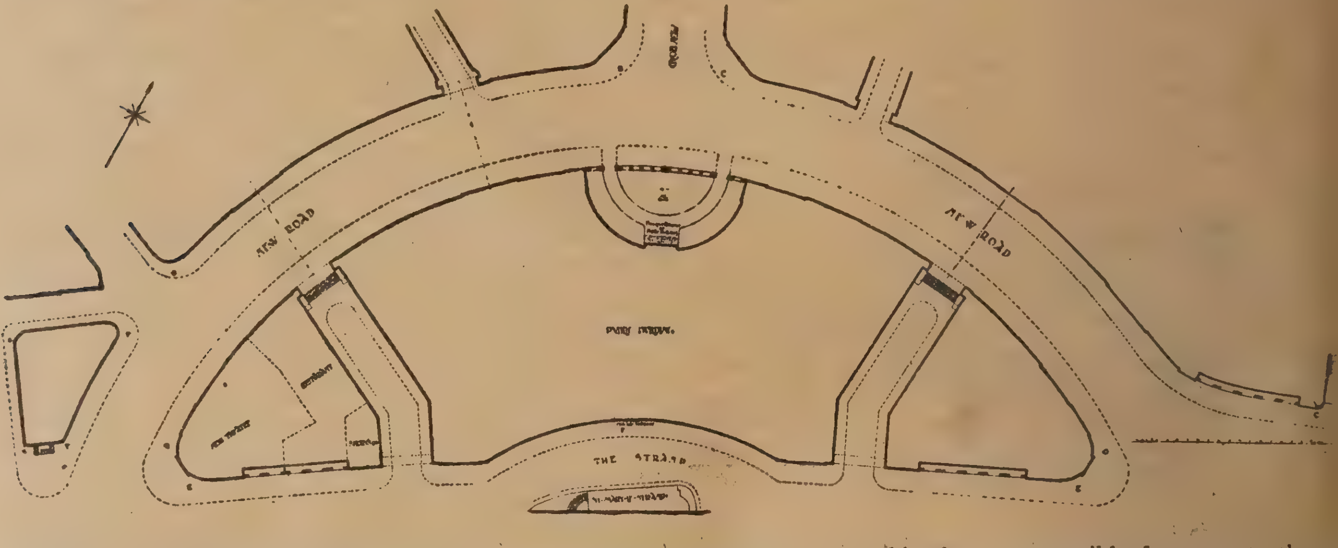
Another of the illustrations shows the entrance to the staircase from the court.



CHÂTEAU DE BLOIS:—LUCARNE ABOVE GRAND STAIRCASE.

NOTES AND COMMENTS.

HADDINGTON, in East Lothian, was once a royal residence, and remains of the palace existed until 1883. As was to be expected, there were several churches in the town, but no trace of them exists with the exception of St. Martin's, and the parish church which was once known as the "Lamp of Lothian." The latter building is supposed to date from the fifteenth century, and succeeded one founded in the twelfth century. The ruin consists of a choir, transepts and nave. The interior length is 196 feet 8 inches. The tower is 90 feet high. The church has been subjected to various alterations, but it still continues to be one of the most interesting examples of Scottish Gothic. Its condition is not to be ascribed to the Reformers. But as Haddington was besieged in 1548 the church may have suffered when the Scottish and French troops entered the town. For some time past the building has been in charge of the Scottish Board of Works. Recently an anonymous donor has undertaken to bear the expense of a restoration of the church. There is, we believe, a need for an additional church, and from its old associations the fifteenth-century building would appear to be better adapted for worship than any new structure. But the adaptation to modern requirements would, as experience shows, deprive the church of the characteristics which give it historical and archæological interest. Unfortunately there is a feeling in Scotland among religious people that a victory is gained whenever Mediæval buildings are utilised for purposes which differ from those which inspired the original architects, and in consequence several abbeys and churches have lost much of their interest. It is to be hoped, however, that a wiser spirit will animate the Board of Works and the people of the district when dealing with the remains of the "Light of Lothian."



THE city of Paris has been able to acquire for the insignificant sum of 3,000 francs the frescoes which adorned the staircase of the Hôtel de Luynes in the Rue Saint Dominique. It was supposed several months ago that the arrangements for the purchase were concluded, but the demolition of the building had commenced, and it was almost at the last moment the Municipal Council decided to secure the frescoes. It will be a troublesome operation to remove them, for the colours must have suffered from exposure to the weather since the roof and outer walls were removed. It is believed that the figures were painted by SALDINI, and the architecture by BRUNETTI, of Milan. The foundation-stone was laid in 1650. The mansion belonged to the Duchesse DE CHEVREUSE, whose name is familiar to readers of DUMAS'S "Musketeers." It was necessary to remove the building in order to unite the Boulevards Saint-Germain and Raspail.

THERMUS or Thermom was the capital of ancient Ætolia. It is entirely beyond the usual course followed by tourists, but it is like many ancient Greek cities in being placed on the slope of a hill, the acropolis standing on the summit. Excavations have been conducted there by the Greek Archæological Association. It is believed that it was inhabited in the third century B.C. There existed then a Temple of Apollo of still older date. Remains of the ancient buildings have been found. Apparently the people could not conveniently obtain stone for building, and they were compelled to erect temples and other edifices of wood, which were decorated with terra-cotta and sometimes with bronze. It is not easy to discriminate between the remains, but it would appear there were two large buildings. In one the pediment presented the myth of PERSEUS. The figures were painted, red, black and white colours being used. Two inscriptions have been found relating to boundaries and public business. A small museum has been erected to contain the objects discovered.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: GENERAL VIEW FROM NORTH-WEST.

ALTHOUGH the west front of York Cathedral was erected as late as 1338, it is uncertain who were the builders. It is believed that the front was completed by Archbishop WILLIAM DE MELTON, and the great window is credited to him. According to CARTER, "No piece of architecture in the kingdom can possibly demonstrate the genius and ability of our ancestors in the fourteenth century more forcibly than this front. It possesses sublimity of design, and shows the majestic and splendid taste that marked the reign of the mighty and puissant EDWARD." Some critics have been less captivated by the structure. They consider the west window is too large, that the central doorway is not sufficiently emphasised, and that there is a want of power in the upper parts of the tower. BRITTON says that "the stone of which the lower part of the west front is constructed was brought from Bramham Moor, near Tadcaster, about 10 miles from York; but that of the two towers was probably obtained from the quarries of Stapleton, near Pontefract, for among the archives of the Duchy of Lancaster is a grant, dated July 17, 1400, 1 HENRY IV., to the Dean and Chapter to be exempt from the payment of tolls and other customs in the river Air for stone to be carried to York Cathedral for the new works. The stone of the lower part is of a greyish colour when exposed to the weather; the grit is fine, but has sadly failed in preserving its substance where delicately cut, as almost all the sculpture is much mouldered, and even ashlar work, or plain walling, owing to the slow but continual decomposition of its surface, has never acquired the fine russet that clothes the exterior of Lincoln and Peterborough Cathedrals or the neighbouring fabric of Beverley Minster."

THE LONDON COUNTY COUNCIL HOLBORN AND STRAND IMPROVEMENT.—DESIGN No. 28 (SEE PLAN ABOVE).

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. W. H. Seth-Smith, president, in the chair.

The following were elected members:—Messrs. H. W. Clapson, C. L. Gill, H. J. Rippon and K. D. T. Robinson.

On the motion of the President, a vote of condolence with the family of the late Henry Cowell Boyes, a past president, was passed.

Mr. R. W. SCHULTZ read a paper entitled—

Hints on the Preparation of Studentship Drawings.

Most of our studentships of the present time are rightly or wrongly awarded on a system by which, under certain conditions, drawings are submitted in competition for the various awards. It is a matter of grave question whether this is the best method of choosing the student who is most worthy to participate in the benefits to be derived from the opportunities for study opening up by the bestowal of the prize. I fancy, however, that it would be going outside the limits of our subject were we to discuss this point; we must therefore accept it for the moment as a fact, and try to consider how far the conditions can be acted up to with most benefit to the student and with the prospect of obtaining the best results. During the past thirty years or so architectural students have been encouraged to worship at the shrine of the fetish of mere draughtsmanship, and they have got into the way of dividing themselves into two camps—(1) that of the draughtsman *par excellence*, and (2) that of the so-called practical man. The former have been accustomed to go about with their heads rather high in the air and a general tone of superiority in their bearing, and to be obtrusively patronising to the latter, who have been looked upon as mere "hewers of wood and drawers of water." It was considered a much greater merit to be able to make a pretty perspective than to be capable of working out an honest, straightforward piece of construction; and this is hardly to be wondered at when we find that the bulk of the "plums" were usually awarded, consciously or otherwise, to the most taking sets of drawings, looked upon as drawings. Many things were responsible for this, and amongst them I think we may place the following:—1. In the case of the Royal Academy, the fact that the architectural prizes were judged by a committee or council in which painters largely bulked, the majority of whom had little or no knowledge of architecture. We can all remember instances where thorough and careful studies were obviously passed over in favour of others which had been made purposely attractive to the body of selection, often at the expense of ignoring or depressing the essential points of the subject set for study when judged from an architectural standpoint; and, indeed, students got to expect this, and, consequently, drawings were prepared purposely with a certain superficial attraction I well remember a hue and cry which was raised by students a few years ago when by strange chance a really strong and original, if somewhat unprepossessing, design, showing real genius in composition and construction, was given the first place over others better drawn, perhaps, and worked out on more correct archæological lines, but which did not show anything like the same sturdy grasp and powerful, strong handling of the subject. 2. I think I may also say that Mr. Norman Shaw's beautiful drawings had a potent influence on the younger generation, who seemed to lose sight of his power of composition and daring of construction in the charm of his draughtsmanship. 3. The attraction of the walls of the architectural room at the Academy also carried weight. Men knew that a pretty drawing was more likely to be placed than a clear straightforward architectural diagram. 4 The growth of architectural competition generally likewise created a certain demand for showy drawings, and men knew that they could command a higher price for their services if they cultivated the knack of mere draughtsmanship, and so were apt to ignore the more essential qualities which go to make a good architect.

tried to ascertain from your hon. secretary the motive which influenced your committee in selecting the subject for our evening's entertainment, but the answer I received left me more in the dark than before. I assume, however, that we are expected to give you some hints that will be useful to you. There are at least two ways in which such hints can be of service to you, but they may lead in diametrically opposite directions. The first is, hints that will enable you to go in for a studentship with a chance of winning it; the second, hints that may help you to prepare your work in such a manner that you will reap the greatest benefit to yourself from the study of the subject which has been set before you. On the first I cannot venture to help you, and will leave this to my friend Mr. Pite, who, in his day, was fortunate in obtaining some of the most sought-after prizes, and who is now, I believe, a member of one of those mysterious bodies or councils who carry your fate in their hands. On the second I can, perhaps, give you some advice which may be of use to you, if only in the way of starting what I hope will be an instructive discussion afterwards. I assume that studentships are looked upon as purely educational; that is to say, affording the young architect an opportunity which would not otherwise be open to him for perfecting himself in the study of his art.

To enable him to obtain one of these studentships certain conditions are laid down, some of which, I am sorry to say, have a considerable savour of red tape about them, and tend to hamper the student rather than to encourage him. I refer more particularly to the condition regarding size and number of sheets, scale of drawings, &c., which are in many cases needlessly arbitrary. Broadly speaking, the type of subject is of two kinds. The student may have to prepare a design for a building or a portion of a building, or he may have to submit a series of drawings, showing evidences of study of old buildings or their accessories.

The first we may look upon as an essay in design and composition, and it will shortly bear on its face the impress of the training through which its author has passed, or show evidences of the course of thought which has influenced him, but whether it will show a grasp of the sense of proportion, a constructive capacity, or an idea of fitness for a suggested purpose is very doubtful. The second will indicate that the author has visited and drawn examples of old work, or perhaps made careful and exact measured drawings to scale of an old building, church, palace or mansion; but how far he has peered behind the surface and tried to analyse the motives which influenced the old men, or to grasp the difficulties they had to contend with, and see how they overcame them, is quite a matter of small moment as things are at present—probably the idea never occurred to him

In the first case we have a set of taking drawings, a plan more or less apparently workable, the elevations designed in some phase of a past architecture, and all nicely inked in with a good deal of go, carving and figure-work, perhaps suggestively indicated, but no cohesion, no definite note of character. You look at the perspective view; the building might be suitable for half a dozen purposes; it lacks expression.

In the second case you have a series of very pretty drawings with plenty of flick and dash—sketches of church towers, say, or old mansion-houses, a piece of panelling or a ceiling to scale, or a church screen or font, and there may be also some sheets of coloured decoration more or less approximately suggesting the present state of the original, with all the blemishes shown to the life; but how seldom anything more. How rare to see the subjects really studied, the materials analysed, the detail and construction investigated.

Now in the preparation of studentship drawings it seems to me that draughtsmanship as such should occupy a secondary place. It is not the first essential by any means. The quality of the paper used, the tone of the ink, the breadth of the line, the way in which carving should be indicated, how mouldings should be tinted in—none of these things is of prime importance; undue attention to them will not make you a better architect. What you want to be able to do is to show as clearly as you can that you have made a thorough study of your subject. If it is a design for a new building, get your plan simple and straightforward; if an awkward site is purposely given, fit in your building skilfully and directly Do not sacrifice everything to a hobby or a piece of empty cleverness. Get a sense of proportion and of dignity or homeliness, as the case may be, or both combined, into your composition. Ignore striving after effect as such. Make it apparent that you have considered the most suitable materials to be employed and the most judicious use of them. Do not neglect your construction. Do not overlard your design with ornament everywhere; if you want sumptuousness you can get it by concentration more effectively than by diffusion. If it is a building for a town site, do not neglect such practical points as lighting. Do not put heavy cornices or other projections in positions where they will obstruct light and air, or where they will not be visible. Do not place your sculpture where it could only be seen at an angle of 60 deg. or not seen at all. Avoid unnecessary projections that would in reality only catch and hold dust and dirt, to be blown into the windows whenever occasion offers. Do not propose a scheme of colouring that will probably be obliterated after the first six months. Be reticent, appropriately dignified. Give your attention to these and other such points, and do not be afraid. There will be plenty of scope left for a building with character, expression and individuality, and see that your drawings express the building and its nature, just as the building itself should express its uses. Let them be clear, straightforward and simple. If a perspective is required, let it not be set out from an impossible point of view. Apply the same rules generally to whatever the subject may be. Leave the books alone. There are far too many books to refer to nowadays. Sit down and let your mind have free play, and think the subject out from the beginning. By doing so you are training yourself for the real work of the future, and for tackling the real buildings you all hope to erect. There will be much harder and more complex problems to face then, but you will be able to deal with them far better by overcoming the ones of the present, and whether you win your studentship or not you should come out of the ordeal feeling stronger and more capable by having manfully faced the real issue, by having trod the narrow path and not the broad road. If, on the other hand, you are asked to submit studies of old work, go and examine the old buildings thoroughly; try to put yourself in the place of the old men who built them; realise, if you can, the conditions under which they laboured; look how they made the most of the materials to their hand, and see how they overcame their difficulties, and how sometimes they did not, and had to remedy things afterwards; take warning from their weaknesses; admire their general skill and foresight, and learn what is good to be learnt from their experience; but do not think you are going to imitate them, because you cannot if you try. Conditions are entirely different, and what was straightforward and right in the thirteenth century would be more often than not an affectation now; but come away, if you can, imbued with a desire to emulate them by trying in your day and generation to tackle your conditions as they did theirs, and show by the results of your study that you have grasped this. You may not win your prize, but you will have learned more than if you had done nothing but brought back pretty water-colour drawings and notes of useful, cribbable detail.

I do not wish to say much more now, although there is no doubt a great deal more that might be said. Do not forget that you are young, and being young you have enthusiasm which should carry you far and overcome many difficulties. Do not bury it in the slough of past styles of Italian Renaissance, of Francis I., of Thirteenth Century, of Roman or Byzantine or Periclean Greek. Do not let yourselves be mere draughtsmen, but be men, and acquit yourselves like men, modern men, men of the new century which has just dawned. Yours will be the task to grapple with its complexities and its new problems. Try to make the complexities less complex and the problems more simple. Prepare to tackle them with a stout heart and with determination, foresight and common sense. Do not mistake the shadow for the substance. Do not be slaves to a past which you probably do not understand. Do not study old buildings exclusively, but look at the works of great modern architects like Butterfield or Mr. Philip Webb, men who have learnt the useful lessons that the past can teach better than most men, but who can never be classed with the copyists or whose work can never be labelled with the tag of a dead style. They have worked in the period nearest to you, and have understood and tackled its difficulties. Where they have succeeded there is room for at least a hope that you will not fail.

Prof Beresford Pite said that Mr. Schultz had just presented all the salt to them. He spoke of the evils of competition and of the evils of draughtsmanship. These evils will prevent any student getting a prize. There is no other aspect, and thus from Mr. Schultz's point of view you will always be working for an impossible end. You will be working out construction which will never be constructed. If you want to have a good exercise in design have it, and in drawing and construction have it. Redesign the old illustrations and plates on architecture. I want to give you a few hints on the materials to be used. Take paper first. I think Street's advice is good; it is "Use the best." All paper has an astonishing influence on drawing. Don't buy cheap paper. The paper that is called "unbleached Arnold" is good, and it will stand scraping. The "O. W." papers are also good, and there are some good papers known as "Joynson's." All good papers will bear scraping. With regard to pencils, use also the best. Fineness of line is necessary. Keep a sharp knife by your side and work with a fine line. Always effect a junction in ruling lines. Consequently the fine line of a "H. B." is important. Never draw with that abomination the "H." and "H. H." pencils. You, as architects, have to draw beautifully, and I believe too hard a point is about the worst for use in the fingers. In detail drawing cultivate a softer pencil still, or a "B." A fine brush is best in moulding. Rubber is important. No architect is so accomplished an artist that he does not need it. He must be a very bad architect if he does not. Rubbing out is a test of perseverance and a test of revision. S. L. Poole of the British Museum once said that the governing principle of Greek design was elimination; in other words, they rubbed out. It was incessant indiarubber. There is a moral influence in the use of rubber, if a soft piece, and it will rub out a line. Avoid using any nib-pens such as crow-quill or mapping-pens. They are as vicious as hard pencils. To get quill nibs is a difficulty, but don't be put off with bad ones. You should also learn to draw with a pointed stick, for with it you get breadth of line and thickness. Bottle ink is not good; rubbed-up stick ink is better. With bottle ink you are always obliged to draw in dead black. Use an ink that you can erase. Use the hardest and best ink-eraser. Attempts to wash out ink lines are sure to fail. Then, as to mounting when the design is finished. In this department mistakes are fatal; you must not experiment. I strictly advise you, if you have a set of drawings you are pleased with, don't run any risks. Put them out to a picture-framer. Don't go in for cheap or thin strainers; have them stout; they will then travel well. Have an eye to your margin lines. Horrible blues and dark browns are too common. A black-and-white margin looks best. There are too often restrictions as to the size of strainers, and architects have not sufficient independence in the matter. Then as to writing. You know architectural printing reveals character just as much as handwriting. The lettering shows the man possesses qualities or weaknesses. If we have sinned in this way, let us now try and write well. Don't imitate the printer's types. Then we have the fine fun of selecting mottoes, and this is the only chance the competitor has of being impudent to the assessors. As to filling-in with black, I do not know why the use of black has become such a necessity in competitions. There really is a fine scope for colour in the getting up of an architect's drawings. In default of colour or black, I would sooner have all sets in outline. There is no more deceptive work than to make drawings in outline, and then to fill in with black which obscures the lining. Avoid free etching. Sketching and the shadow tinting which were easy in finished elevations are a mistake which affect the proportions. In students' designs sketchiness is not possible. The Royal Academy say they do not exhibit sketches. All pictures must be finished. There is just the same rule in architectural designs. Do not draw your walls and windows carefully and then sketch in tiles and pavements. Shadows successfully mastered give a good effect. I believe in good draughtsmanship; there is a charm in it whenever achieved. There is an interest in correctly drawing in detail, and instead of weariness in the work you feel a refreshing influence. In inking in elevations give attention to the effect and quality of the lines. This is seldom done, and in drawing ornament give attention to the construction of those lines which make your design effective. A building never looks on paper as you see it in elevation. There is a very definite logical difference as to what the building is and what the building appears to be. If indication of surface is gone into carefully you will find a lot of interest in the study. There are certain traditional methods which are valuable to the student as to the indication of brick or stone. Use these methods when they give a useful and conventional idea of the materials. Everything that makes for effect get hold of, and when you come to your sections make up your mind to enjoy them. Designing them is an opportunity for display, and make the most of it. Take full advantage of the size of the strainer. When detail drawing is required show pleasure in indulging your humour, and make it apparent that you thoroughly appreciate the opportunities that have been given you. Let your drawing be bold. And now you have an opportunity for employing your pointed stick. Take perspectives from a fanciful point of view, for this reason, that the building you are designing will never be built. You are unfettered. Be as original in this matter as you possibly can, and certainly be imaginative. Take an imaginative rather than an actual standpoint. Hold for your purpose that this is a picture of my building—the end of my design. Your building will never get nearer to actuality than this. Coloured perspective has got into disrepute owing to the frailty, nervousness and weakness of assessors. Whenever you have the opportunity use colour. Make up your mind to master colour; study Prout, Holland, Mackenzie and Roberts, and don't forget Turner's extraordinary accuracy of architectural drawing. In pen-and-ink work the greatest duffer with the brush or the most nervous architectural artist is safe with an outline diagram. If shading with pen and ink is introduced you go outside the bounds of outline drawing. Etching requires an education in itself, the tendency is to get black. Study the gradation of tone. Mr. Norman Shaw has a method of line which is clear. In such work it is advisable to follow a good type, such as Axel Haig's or Ernest George's. Foliage and foreground in sketches are difficult, and it is better to leave them out than to put them in badly. Study exhibition catalogue sketches by the painters, as they offer to the student many methods of outline work. In measured drawings, if to an eighth scale, the plan should be commenced first. Begin at the top and work downwards, stating a few of the leading dimensions. In measured work everything that Mr Schultz has said about the construction is absolutely essential. You are not designing, but you are recording an accomplished fact, and unless the record be thorough you do no good. You have, as it were, to think backwards, consequently the joints should be measured, and nothing that has not been measured should be shown on the drawing. If you want to show rubble, then measure it. This is equally true for beginner and advanced alike. In pretty pencil sketches don't confound this work with the diagram, which is useful to the architect. Do them for their own sake, and for those to whom you would present them. It is very difficult to judge of colour decoration from sketches or drawings, and it is doubtful whether drawings of colour schemes are valuable. The best studies for colour are flowers, old masters and ceramics, but in paintings whatever harmony there is in the colours is due to age. Then there is the subject of design, and here the student is happy and free. You need be troubled with no fads but your own, and there is no hurry for the work. My advice in matters of design is to begin early, put the pot on soon. Grow bolder as you work up examples, but as you collect types keep on designing. Start early because you want unlimited time for revision. The whole history of design is revise, revise, revise, or it may be altered to refine, refine, refine. The architect who is easily pleased with himself is a fool. Some men talk about brilliant ideas which make work short and easy, but this "knocking off" business only comes with great practice. To design well architecturally is downright hard work, revising and revising, and you must cultivate your imagination. You cannot brew from nothing; you must feed your minds. Take a period or style and work it through, understand it, and as a student it is permissible for you to design in that style. Cultivate some such master as Piranesi, Brunelleschi, Bramante or Alfred Stevens. Work him through, understand what he drew, how he drew, what he thought and what detail he loved. Study the architectural backgrounds of the paintings of the Holbein and Wohlgemuth school. Avoid the commonplace and the conventional, academic and grand. Finally, whatever you do don't care a dump about the assessors; don't pander to their tastes. As a student, don't give a moment's thought as to what the assessors wish or like. All successful students are not great architects, but it is well to take up the work of successful students and to study it. Bear in mind, therefore, that the word student has a relation to its end. You are studying for the sake of art, and not for the matter of prizes or diplomas, and working earnestly you will continue in the service of that art whether you are successful or not.

Mr H. L. Florence proposed a vote of thanks to the two lecturers.

The motion was seconded by Mr. Walter Millard, and supported by Messrs. F. G. F. Hooper and Arnold Mitchell.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A BUSINESS meeting was held on Monday, when the following members were elected:—

Fellows.—Walter Ashton, Manchester; Frederick Oscar Oertel, executive engineer, North-Western Provinces of India, and Thomas Bostock Whinney, 8 Old Jewry, E.C.

Associate.—Frederick Milton Harvey, Municipal Buildings, Great Yarmouth.

The paper of "Suggestions for the Conduct of Architectural Competitions" was adopted as follows:—

1. The promoters of an intended competition should, as their first step, appoint one or more professional assessors, architects of established reputation, whose appointment should be published in the original advertisements and instructions, and whose decision should govern the selection of the designs.

The President of the Royal Institute of British Architects is always prepared to act as honorary adviser to promoters in their appointment of assessors.

All the designs sent in should be submitted to the assessors.

2. The duty of assessors should be:—(*a*) To draw up the particulars and conditions (as far as possible in accordance with the principles set forth in these suggestions) as instructions to competitors, and to advise upon the question of cost; (*b*) to determine whether the designs conform to the instructions, and to exclude any which do not; (*c*) to advise the promoters on the relative merits of the designs admitted to the competition, and to make a selection in accordance with the conditions.

3. Every promoter of a competition and every assessor engaged upon it, and any employé of either, should abstain absolutely from competing and from acting as architect for the proposed work.

4. The number and scale of the required drawings should be distinctly set forth, and they should not be more in number or to a larger scale than necessary to clearly explain the design. Perspective drawings are not necessary, but if the assessor advises that they are desirable it should be so stated, and such drawings should be uniform in size, number, mode of colouring, mounting or framing (if any), &c.

5. Competitions should be conducted in one of the following ways:—

(A) By advertisement, inviting architects willing to compete for the intended work to send in designs. The promoters, with the advice of the assessor or assessors, should make their selection from such designs. The author of the design awarded the first place should be employed to carry out the work.

(B) By advertisement, inviting architects willing to compete for the intended work to send in their names by a given day, with such other information as the candidate may think likely to advance his claim to be admitted to the competition. From these names the promoters, with the advice of the assessor or assessors, should select—(*a*) an architect to carry out the work, or (*b*) a limited number to compete, and each competitor thus selected should receive a specified sum for the preparation of his design. The author of the design awarded the first place should be employed to carry out the work

(C) By personal invitation to a limited number of selected architects to join in a competition for the intended work. Each competitor should receive a specified sum for the preparation of his design. The author of the design awarded the first place should be employed to carry out the work.

6. No design should bear any motto, device or distinguishing mark; but all designs should be numbered by the promoters in order of receipt. Any attempt to influence the decision of the promoters or of the assessor or assessors should disqualify a competitor.

7. In every case the amount of premium or remuneration for the competitive designs should be fixed under the advice of the assessor or assessors, and should be paid in addition to the usual professional charges for carrying out the work.

8. Where a deposit is required for supplying the instructions, it should be returned either on the receipt of a bonâ-fide design, or if the applicant declines to compete and returns the said instructions within a month after their receipt.

9 Each design should be accompanied by a declaration, signed by the competitor, stating that the design is his own personal work, and that the drawings have been prepared under his own supervision.

10. A design should be excluded from a competition—

(*a*) If sent in after the period named (accidents in transit excepted); (*b*) if it does not substantially give the accommodation asked for; (*c*) if it exceeds the limits of site as shown on the plan issued by the promoters, the figured dimensions on which should be adhered to until officially altered; (*d*) if the assessor or assessors should determine that its probable cost will exceed the outlay stated in the instructions, or the estimate of the competitor should no outlay be stated; provided always that should the assessor or assessors not have been consulted in the first instance respecting the cost, as recommended in paragraph (*a*) of Clause 2, and should he or they be of opinion that the outlay stated in the instructions is inadequate for the proper execution of the proposed works, the assessor or assessors shall not be bound in the selection of a design by the amount named in such instructions, but the question of cost shall nevertheless be a material element in the consideration of the award; (*e*) if any of the other instructions are violated.

11. It is desirable that all designs submitted in a competition, except any excluded under Clause 9, should, with the consent of their authors, be publicly exhibited after the award has been made, which award should be published at the time of exhibition.

12. The architect whose design may be selected as the best should be employed to carry out the work, and he should be paid in accordance with the schedule of "Professional Practice as to the Charges of Architects" sanctioned and published by the Royal Institute. If no instructions are given to him to proceed within twelve months from the date of the selection, he should receive adequate compensation in addition to the premium (if any) awarded to him. In the event of a part only of his original design being carried out, he should be paid a sum to be agreed upon in respect of the deferred portion, such sum to be merged in the usual professional charge when the completion of the design is proceeded with.

⁂ It should be understood that the Royal Institute issues these suggestions as a guide to promoters where a competition has been decided upon, but not as necessarily recommending the principle of competition.

Mr. Solomon's resolution concerning the status of the profession was altered and adopted in the following form:—That a committee be appointed to inquire into the status of the architectural profession, and to suggest remedies if needed.

RECENT EXCAVATIONS IN THE FORUM.

THE following communication from Mr. Rushforth, of the British School, Rome, has appeared in the *Times*:—

Those of your readers who have followed the excavations in the Roman Forum conducted with such extraordinary success by Comm. Boni may be interested to have a summary of the most important results obtained during the year which has just expired. Though there has been no find so sensational as that of the Black Stone, discoveries of very high interest and importance continue to be made. I will endeavour to describe as briefly as possible the most striking of these.

The greater part of the Basilica Aemilia, for the excavation of which in the first instance the world has to thank the liberality of Mr. Lionel Phillips, has now been laid bare. Private property bars any further advance for the present; but we can walk upon the marble flooring of the great hall and wonder what was the catastrophe which would explain the large quantity of half-melted copper coins of the fourth century which have been found there. Everywhere are traces of fire; notably, on the fragments of the columns of African marble which divided the nave from the aisles. It is difficult not to believe that these are the columns which Pliny says made the Basilica "wonderful." By a slip which is pardonable in an encyclopædist, he calls them Phrygian marble ("Pavonazetto"). The fragments show that the columns were nearly 3 feet in diameter, which would give a height of about 30 feet, and there was besides a corresponding series of rather smaller size on the upper storey. A complete set of columns of these proportions might well be said to excite admiration. To use no other argument, it is incredible that if, as has been suggested, the "Pavonazetto" columns were carried off to St. Paul's Without the Walls in A.D. 386, the same age could have replaced them by these splendid monoliths of "Africano." The idea carries its own refutation with it.

Below the pavement of the Basilica a great sewer, with side-walls of travertine, coming from under the Via Cavour, has been opened. Just where it passes under the steps which led up from the street to the outer arcade of the Basilica the base of a small circular shrine projects into the roadway. It has been suggested that this is the Temple of Venus Cloacina, the cleansing goddess. It is interesting to remember that Livy tells us that it was by the shrine of Venus Cloacina that Virginia was stabbed by her father with a knife snatched up from one of the shops which in early Republican days occupied the site of the Basilica.

The western end of the Basilica and a portion of the ancient street which separated it from the Curia have been laid bare, but as yet nothing has been discovered to throw any light on the Temple of Janus which we know was somewhere close by. For the present the monastery buildings attached to St. Adriano stop further progress. Some interesting excavations in the later roadway opposite to this angle of the Basilica have revealed in excellent preservation a fairly early tufa pavement of the Republican Forum. The way in which the slabs are set, obliquely to the lines of the buildings and streets of post-Cæsarian times, is a good illustration of the original orientation of the Forum. A spectator looking down its length in those days would face the northern angle of the Palatine Hill, and not, as in later times and now, the Colosseum. It is curious, however, that all the earlier walls which have been uncovered below the Basilica Aemilia are orientated in the same way as the structures of Imperial times which replaced them. On the other hand, a fine piece of travertine pavement in the Comitium, close under St. Adriano, which must belong to the last age of the Republic, is set obliquely. The greater part of the Comitium has now been laid bare, but we are hardly yet in a position to estimate the various layers of which it is composed. The most striking objects which have been found on its upper surface are the pedestal of a statue to Mars and the founders of Rome set up by Maxentius (306-12), and the base of a fountain immediately opposite to the door of the Curia (St Adriano). If the latter belongs to Classical times it was a most unusual ornament to place in a small area where every object had a sacred or official significance. I might suggest that this, like the statue just mentioned, and probably also the restoration of the Black Stone, is another of Maxentius's reminiscences of the early days of Rome and represents the fountain of Tarpeia One recalls the lines of Propertius in his version of the legend:—

> "Ubi nunc est Curia sæpta
> Bellicus ex illo fonte bibebat equus.
> Hinc Tarpeia deæ fontem libavit"
>
> (Propert. v. 4, 13.)

But, perhaps, it is safer to suppose that the fountain belongs to a rather later age, and formed the cantharus in front of the church which Honorius I. constructed in the Curia about the year 635.

Leaving the Black Stone and the primitive objects beneath it, about which no further material facts have been discovered, we pass to the curious structure which has been unearthed between the Imperial Rostra and the Temple of Saturn and forms, according to one theory, the Rostra built by Julius Cæsar when he changed the orientation of the Forum. Its position may be described by saying that its N E. extremity is in a line with the Column of Phocas, and its S.W. with the steps up to the Temple of Saturn Below a platform finished with a plain cornice, a row of eight low arched chambers, so small that they may be described as cells, faces the central area of the Forum The tufa construction, which might well belong to the first century B.C., and is peculiarly neat in finish, has been completely covered with stucco The floor of the chambers is paved with brick tesseræ, and this extends continuously for some way in front of the structure The effect of the whole, though neat, is plain to a degree and even humble. We cannot suppose that any external decoration has disappeared, for the stucco was evidently the outer facing, and the piers between the arches (only, strange to say, some and not all) have a rude cornice and impost. Can this be the Rostra of Cæsar? The coin of an uncertain Palikanus shows a row of ships' beaks projecting from arched openings. Is this a representation of the Rostra of later Republican times, and did Cæsar reproduce the old model when he moved the structure to a new position? On this difficult problem two observations must suffice. In the first place, if the newly-discovered structure is not the Rostra, what can it be? The cells, in which there is barely room to stand upright, are too small for shops or any practical purpose of that kind. Secondly, though the surface of the stucco facing is often quite perfect, there is not the slightest trace, either within the chambers or on the outer face of the piers and arches, of any attachment by which the Rostra can have been fixed. We can only suppose that, if they were here at all, they stood on the floor of the cells, supported perhaps in some kind of stand or cradle.

Another series of discoveries of very great interest has taken place at the opposite extremity of the Forum. On the south-east side of the Temple of Castor and exactly opposite to the three columns which alone remain standing, the Lacus Juturnae has been found, just in the position in which it is marked, though not named, on a fragment of the ancient plan of Rome now in the Capitoline Museum. The Lacus is a deep rectangular reservoir lined with marble. At the north-east angle the spring comes up through an opening in the floor which goes down to the gravel. The centre is occupied by a large oblong base of masonry, also faced with marble, upon which no doubt stood side by side, as is suggested in the ancient plan, the pedestals with Castor and Pollux holding their horses. For the present the base supports a marble altar found in the Lacus, presenting on its faces reliefs of Jupiter, the Dioscuri, Leda and a female deity with a torch. Close by are placed, awaiting a possible completion by the finding of further fragments, the remains of the group of Castor and Pollux which were found in the Lacus. The most important pieces are the head and the greater part of the body of one horse, a considerable portion of the torso of one of the Dioscuri, and a smaller portion of that of the other, together with a right leg. The marble and the style show that the work is Greek and of a high class. It is much to be regretted that neither of the heads of the Dioscuri have been recovered.

There is a small group of chapels to the south-east of the Lacus, and in these some pieces of sculpture have been found, mostly poor work of the second century A.D. or even later. The most notable are a headless Apollo (a Roman imitation of archaic Greek work), an Æsculapius with Telesphorus by his side holding the cock, a bearded bust possibly also of Æsculapius, and the lower part of a seated female figure. Immediately to the right of these buildings rises the shrine of Juturna, a tall niche of brickwork originally cased in marble. Among other fragments, part of the architrave with the name of the goddess has survived. The shrine, though in its present form of comparatively late date, has preserved the original orientation facing north. Close under its front is a marble well-head (puteal), quite perfect, with an inscription recording its dedication to Juturna by Marcus Barbatius Pollio, curule ædile. There is no spring in the well, and the water which filled it was brought from the Lacus by a leaden pipe which still remains. The ropes which raised the bucket have made deep grooves in the margin, which also retains traces of the metal framework to which they were attached. At a later date an altar was placed in front of the well, almost in contact with it. On its face is a relief (coarse second-century work) of a female figure stretching out her hand to a warrior. It has been suggested that this represents the last interview between Juturna and her brother Turnus, described by Virgil ("Æn." xii. 632).

Finally we come to the great church which has been revealed by the removal of S. Maria Liberatrice and the ground behind it. At right angles to the entrance, and immediately behind the shrine of Juturna, is a smaller church, which, as the well-preserved eighth-century fresco of the apse shows, must have been dedicated to the Forty Martyrs. Apparently our authorities contain no trace of any such dedication in this region. The principal church consists of the two great halls which, constructed in the second century between the Palatine Hill and the massive brick structure known as the Temple of Augustus, were partly remodelled in Christian times and completely decorated internally with painting

What was this church? On December 21 the discovery of an inscription answered the question and put an end to a long controversy. It is S. Maria Antiqua—"Old St. Mary's," as we should say. It was already "old" by the middle of the seventh century, when we find it mentioned for the first time. Then the "Book of the Popes" (Liber Pontificalis) tells us that in the early years of the eighth century John VII decorated it with paintings, the reason, no doubt, being that by the construction of the adjoining Papal residence it had become the Papal chapel. After the ninth century the name disappears.

A few words must suffice to give an idea of the remains which have now been recovered. Of the two halls of classical times, the outer, though not open to the sky, was perhaps treated as an atrium, as shown by the numerous burial recesses (*loculi*) excavated in its walls. Its sides, at least, were completely covered with paintings, but they have suffered so severely that little of importance can be made out. The inner church is far better preserved In places the frescoes on the walls are to all intents and purposes as fresh as the day that they were painted, and the architectural arrangements are fairly easy to trace. An apse has been hollowed out of the back wall of the square sanctuary which is flanked by two chapels, while the nave of the church was separated from the aisles by two granite columns on either side. Low screens divided up the space in a curious way Every inch of the surface of walls, screens and columns was covered with painting. Most of that which has survived belongs demonstrably to the middle of the eighth century. To the left of the colossal Christ in the apse stands a bishop with the square nimbus, which shows that a contemporary person is represented Beside him is his name; it is Paul I. (757-67) A glimpse, by the way, was got of this figure when the apse was excavated nearly 200 years ago; but the rest is new to us. In the chapel to the left, beneath a Crucifixion of extraordinary brilliancy which fills the recess above the altar (the base of which still stands in its place), the Virgin is represented, surrounded by Peter and Paul, Quiricus and Julitta, the saints to whom the chapel was dedicated, as the paintings on the side walls show. But the two figures at either extremity of the group are of still greater interest for us. To the left, with the square nimbus and his name clearly inscribed, stands "Pope Zacharias". (741-52) To the right an ecclesiastic presents the model of a church to the Virgin. Beside him appears the inscription which settles the name of the church. Written fully it runs, in the ungrammatical Latin of the time:—"Theodotus primocerius defensorum et dispensatore Sanctæ Dei genetricis senperque birgo Marie qui appellatur antiqua." Theodotus can hardly be any other than the uncle of Hadrian I., who, we are told in the "Book of the Popes," began life as an official of the Byzantine Government, and afterwards became one of the highest dignitaries of the Roman Church. The scenes from the Old Testament which covered the side walls of the church are in the same style as these paintings, and formed part of the same scheme of decoration But on the wall to the right of the apse accident has revealed several layers of the painting below Without attempting here to distinguish these minutely, one may say that the earliest of them belong to a time when the classical tradition of painting was still vigorous, and that some of the later fragments, though harder and more conventional in style, still bear evidence to the continuance of that tradition. In any case, there is a world of difference between them and the eighth-century pictures The same impression is conveyed by some scenes from the life of Christ on the side walls of the sanctuary, and, in a less degree, by the fragments of Old Testament subjects, mostly on the screens in the body of the church. They recall the miniatures which illustrate Christian MSS of the fourth to the sixth century. Now we know that it was not (with rare exceptions) till after the Byzantine conquest in the sixth century that the ancient buildings in Rome began to be converted into churches. By the seventh century, as we have seen, S. Mary's had been already long enough in existence to be distinguished as "Antiqua," from some more recent church The paintings which show the classical influence cannot be put later than this, and one would expect them to belong rather to the earlier days of the Byzantine dominion. At present the work of John VII. is not obvious, but we must remember how comparatively small a portion of the painted surface of the interior has survived. Then, in the middle of the eighth century, the apse, chapel and outer walls were almost completely redecorated.

As one stands before the Crucifixion in the side chapel, one cannot but reflect on the extraordinary fortune which has preserved to us a dated picture of the eighth century with all the freshness and crudity of its original colour. Relatively speaking, but a short time must have elapsed before the church was abandoned, probably after an earthquake which filled the building with débris and sealed up the paintings till our own day. Fragmentary as are the remains, and poor from an artistic point of view as is the work of the eighth century which forms the bulk of them, they are nevertheless of immense importance for the history of painting, as helping to bridge the gap between the end of the classical tradition and the beginnings of the Italian Renaissance, just where the evidence has hitherto failed us. It is much to be feared that the paintings, now that they are exposed, will soon lose the freshness of their colouring, as, indeed, some have done already. They are protected so far as possible by wooden roofs, and careful drawings are being made of the whole, but it behoves those to make haste who would enjoy the unique privilege of seeing with their own eyes specimens of the painting of the seventh and eighth centuries, practically as the artists left them. They are but fragments, it is true, but they enable us to realise, as we could hardly have hoped to do, the appearance of that which, without exaggeration, may be described as the Sistine Chapel of the eighth century.

THE NEW ROYAL INFIRMARY, GLASGOW.

THE ten sets of competitive plans for the reconstruction of the Royal Infirmary, in commemoration of Her Majesty's Diamond Jubilee, were shown to the general public for the first time on Friday last. The exhibition took place in two of the rooms above the council chamber in the Municipal Buildings, George Square, and from the time of the opening in the morning until the close in the afternoon was largely patronised. The visitors comprised many architects, not a few medical men, among them one or two connected with the Royal Infirmary, several members of Town Council and other public gentlemen. The plans of Mr. James Miller, Glasgow, which were adopted by the committee, and provide for a reconstruction scheme at a cost of 241,000*l*., were inspected, says the *Glasgow Herald*, with much interest The institution, as shown in the perspective drawing, is a much more imposing structure than the sketches which have been published would lead one to imagine it is. Scottish baronial in character, it is castellated in many of its features, and its Cathedral Square elevation is dominated by a spire-capped tower which will harmonise well with the ancient church not far distant from its site. Some curiosity was shown regarding the plans of Mr. H E. Clifford, Glasgow, which were placed second by the committee, ten of whose members voted for them as compared with eleven who voted for Mr. Miller's design. The assessor to the committee, Dr. Rowand Anderson, Edinburgh, it may be recalled, pronounced in favour of Mr. Clifford. His plans show a Renaissance building of dignified appearance with a dome, and the sky-line is further varied with flat dome-covered towers in the Castle Street façade. The other architects have adopted Classic and Renaissance styles, and in several instances the frontages intended to overlook Cathedral Square are reminiscent of the fine old building which many people will be sorry to see removed.

GREEK ART.

THE first address by Mr. Val Prinsep, R.A., the professor of painting at the Royal Academy, delivered on Monday night at Burlington House, was chiefly devoted to the consideration of the art of Greece, the influence of which upon more modern schools he proposes to discuss in subsequent lectures. Addressing himself to the students of the Academy, Mr. Prinsep pointed out that these lectures had now been given for more than a hundred years. That meant that more than 600 lectures had been delivered—enough to make one think that everything that could have been said upon art had been said. But that, of course, was not so, or art would be dead indeed. What had been the result of these 600 lectures? Did English artists paint better now than they did, and did they, in this case, owe the improvement to the professors of painting? Alas! no, for a professor of painting could no more teach students to paint by lecturing than a professor of the violin could teach his students to master that instrument by similar means. It was in the schools that the student must practise art and learn the language of painting from its alphabet. For what was painting but the expression of the thought of the painter in colour and form? He would lay down no rules, no dogma, for what was good for one artist was no good for another. But he would try to do all that a lecturer on such a subject could do—to make them think. He would impress upon them that all arts were really alike. Painters, poets, musicians and sculptors were all striving to render thoughts through the means they had chosen, all trying alike to express ideas, but in different language. The lecturer then traced the origin and progress of Greek art, at first that of the metal worker, then that of the sculptor, whose early work was rude in form, and quite unlike what we regarded as the Greek type. Through Corinth and other cities he sketched the progress of art till at length it made its home at Athens Of Athens and its surroundings the lecturer gave a vivid description, and of the changes which centuries of war and weather had made in its appearance. Athens in its great days of art contained probably no more people than Kensington to-day. Life was very easy—it was the duty of the State to feed the people, and amusements were not wanting. The worship of beauty was their religion; and for their sculptured gods and goddesses—divinely tall and fair—they took for models their own countrymen and countrywomen. Turning his attention to Greek colour, Mr. Prinsep referred to the classic revival of a century ago in furniture and decoration. Through this, he said, and through the work of Wedgwood and Flaxman, Greek art got to be associated with coldness. But really, though sometimes unemotional, it was never cold. The Greek pictures unfortunately were gone, and it was scarcely fair to judge of their work by the paintings at Pompeii. He would remind them that Pompeii was only a watering-place, and not a fashionable one. It might be compared in standing with our own Ramsgate—and who would like to judge of English art by Ramsgate? The art of Pompeii was not either of the best period, yet some of it had certain fine qualities.

Mr. Prinsep quoted from contemporary writers many opinions of, and criticisms upon, the work of the great Greek painters from Polygnotus to Apelles, and after apologising for intruding into the domain of the professors of sculpture and architecture, touched upon the subject of the Elgin marbles, and then returned to that of colour in Greek decoration. Nowadays it was admitted that the Greek architects used colour, but no modern architect had sufficient courage to imitate them by breaking through tradition. It would be difficult, but we might yet see it, and he thought that in this architects might consult painters and sculptors, and all work to one end, though between them they might not succeed in making a Parthenon. The ideal of the Greek had come down to us in their statues, and was still our canon of beauty, sought for unconsciously by every artist in Europe. And although some Impressionists and others strove to escape from it, they all came back in the end to the Greek ideal.

STONEHENGE.

An Engineer offers the following suggestion in the *Times* about securing the upright stones of Stonehenge:—

As the upright stones stand at present they are only supported by being embedded to the depth of a very few feet in the soil and underlying chalk, and the marvel is that so few of them have fallen. Such a foundation must always be insecure owing to its liability to erosion, and from the fact that it possesses no great stiffness to withstand movement caused by wind pressure upon the upper exposed parts of the stones, this exposed part in some of them having an area equal to about six times the area of the embedded part.

Fortunately, however, it would be an easy and inexpensive task to substitute an absolutely secure foundation for that now existing without leaving the slightest trace that anything had been done, and without any danger of disturbing the stones during the process.

For about a foot along one side of a stone let the earth be cleared away to a depth, say, level with the bottom of the stone, and to a distance outwards of 6 feet. A trench would thus be formed extending outwards from the stone and having a length of 6 feet, a breadth of 1 foot, and a depth of about 5 feet. This trench is then filled with concrete to about 6 inches from the top. Now form a similar trench on the opposite side of the stone and fill this with concrete also. A third trench would then be cut alongside the first—the concrete in which is now hard—and this third trench in turn is filled with concrete. A fourth trench could then be cut alongside the second, and the operation repeated until the stone is embedded in and firmly attached to a solid mass of concrete. Of course, cement or any other suitable material could be employed instead of concrete.

The order in which the trenches may be cut and their dimensions may, of course, be varied, the principle remaining the same—*i.e.* successive excavations along the base of the stone, each excavation being filled with concrete before the next is made.

By this method no considerable part of the stone is left unsupported at any time, and there is no risk of displacement during the progress of the work.

The turf would then be replaced upon the concrete.

A scheme such as this should cost comparatively little, and one cannot but feel that many of our wealthy men would be glad to contribute towards its cost, if they were assured that the result would be lasting.

It appears the late General Pitt-Rivers suggested a similar course in 1895. He said:—

"I think that, if anything is done, nothing will suffice but bringing all the sloping stones up to the perpendicular, underpinning or surrounding the bottoms with concrete or masonry up to within a foot and a half of the surface, and covering over the foundations thus formed with earth, so that in a couple of years no trace of the work would be seen. A competent engineer should be employed. The danger is that in falling, which they must do eventually, they will break other stones."

Earl Nelson in a letter on the subject says:—

Surely the time has come when the nation should take charge of this ancient monument.

1. Under proper supervision, the three trilithons which came down in 1797 could easily be replaced, as well as the one just fallen, as careful drawings of them are preserved *in situ*.

2. Then some judicious surface draining would save the remaining trilithons from being gradually undermined by every passing shower.

3. The circular vallum or ditch might be restored by deepening, so as to be a real fence to the temple.

Already a good deal of writing is to be discovered on the stones by tourists, and a large influx of these uncontrolled would soon cause much further damage.

No private owner would have the means or the power to deal with it properly.

I earnestly plead that some steps may speedily be taken by those in authority for its restoration and preservation, for it is one of the wonders of the world.

THE AUCHERNACH PANELS.

The late William Nathaniel Forbes, of Dunottar and Auchernach, has bequeathed to the kirk session of Auchernach the old carved panels of the Auchernach pew in order that they may be re-erected in the new church. Mr. C. S. S. Johnston, architect, Edinburgh, has given the following description of these relics, which were measured and drawn by him during a visit to the district in 1889:—These two fragments of what was latterly called the "Auchernach Pew" were removed to the mansion-house of the same name on the demolition of the old parish church of Strathdon in the year 1834, and are now carefully preserved there, being the property of Mr. William Nathaniel Forbes, of Dunottar and Auchernach. This pew was constructed in the year 1686 by his predecessor, William Elphinstone, of Bellabeg, regarding whose second marriage there is the following quaint entry in the parish records:—"Anno 1666, September 22. William Elphinstone, of Bellabeg (his first wife, Jean Johnstone, a discreet, modest and virtuous gentlewoman, being dead the twenty day of October last bye-past), gave up his name to be proclaimed with Isobel Forbes, second lawful daughter to William Forbes, of Skellater, and were married October 1." The initials E. F. on one of the panels do not exactly correspond with those of the above-mentioned Isobel Forbes, but this discrepancy may be accounted for by the various ways of spelling the same name in those days. The remaining initials and dates refer to the ancestors of William Elphinstone. The carvings were executed in strongly-grained Scottish fir or larch, and having never been painted or varnished, possess a peculiarly rich and attractive effect, which cannot be satisfactorily reproduced in a pen-and-ink sketch. Not a vestige now remains of the original church, nor of the one which was erected in 1757, and the following paragraph from the "Old Statistical Account" of the parish, published in 1794, proves that it has not always been a pastoral paradise:—"The ancient inhabitants of this parish, as tradition relates, were exceedingly rough and uncivilised in their manners. The proprietors, who were very numerous, appear, at least some of them—for there were exceptions in the worst of times—to have been haughty, resentful and cruel. . . . Even the churchyard on a Sunday was sometimes the scene of action, where two hostile lairds, with their respective adherents, rushed upon one another with their durks and their shabbles. The ministers, in particular, felt the effects of their barbarity. One minister (Mr. Baxter) at a very remote period indeed, had his head cut off at the manse door with a lochaber axe by a laird in his neighbourhood. Another (Mr. Macqueen), towards the beginning of the present (eighteenth) century, after repeated insults, was attempted, it is said, to be smothered with a wet canvas on an evening when at family prayers, but being a man of considerable bodily strength, he extricated himself from the toil."

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

At a meeting of this Society, which was held on Monday evening in the Society's rooms, Leeds, Professor Baldwin Brown delivered a lecture, taking as his subject "The Old English Village Church." He sketched the history and associations of the church of Mediæval times, and pointed out that the value of its architectural beauty lay in the fact that it was natural. There was a danger of spoiling such edifices in the process of restoration, but happily the danger which lurked in schemes of restoration was now recognised. As a rule the village church was a masterpiece of Mediæval architecture, and all right-thinking people, no matter what their religious beliefs, must deplore the wanton destruction at the time of the Reformation of so much beautiful sculpture. The Mediæval village church preached the gospel of decorative art with a wealth of clearness for which the student of to-day could not but be grateful.

Mr. Kitson-Clarke, in seconding a vote of thanks to the lecturer proposed by Mr. Billson, gave an illustration of the ignorance prevailing on matters of architectural and antiquarian interest. He said whilst spending a holiday in North Yorkshire he was advised to visit the old parish church, and there found the font placed out on the lawn with plants in it. He mentioned the circumstance to the vicar, and asked, “Are you not going to put it back again?” “No, I don’t think so,” was the reply. “We have got a new one made of wood.”

CHICHESTER CATHEDRAL.

THE Archbishop of Canterbury has promised to visit Chichester on April 16, on the occasion of the dedication of the new north-west tower of the cathedral and the opening of the new wing of the Bishop Otter Memorial College. The rebuilding of the tower has now reached its full height of 96 feet. Though the exterior has been completed, a certain amount of interior work has to be accomplished, but there will be no difficulty in carrying that out before the opening day. As the new tower has occupied two and a half years in building, it should prove to be what it certainly looks—a solid and substantial structure, not likely to share the fate that befel the central spire some years ago. At the last dedication festival of the cathedral, upwards of 120*l.* was collected towards the rebuilding fund, and there is every probability that by the day of dedication the whole of the expense will have been provided for. The restoration of the chapel of St. Clement on the south side of the nave in memory of Bishop Durnford is now complete, all but a slight matter of gilding. The work was initiated as a memorial from those who had been confirmed by the late bishop, 3,300 of whom have contributed towards the necessary fund, all of which has been raised.

TESSERÆ.

Steps in Temples and Churches.

THE despotic character of mathematical rules is such that they even determine the height of the steps that give access to any Classic monument. Their dimensions always maintain a certain relation to those of the columns. When the diameter of the latter becomes very great the steps attain such a height that they lose their first *raison d’être*, and it becomes necessary to get to the top to make use of a smaller flight hidden between the gigantic stages necessitated by the rules of proportion. In all this there is an abuse of the logic of numbers which we should hardly have expected to find among so practical a people as the Athenians. This symmetry when pushed to extremes possesses another inconvenience from the æsthetic point of view. The proportions of everything are so rigorously calculated that the appearance of grandeur is in great part lost. The architects who erected our cathedrals did not make the same mistake. They kept the steps and doors down to the scale fitting for man; thus the contrast between the smallness of these parts and the total elevation of a building gave an increased idea of size. Besides, we must remember that the primary conception of the Greek temple and that of the Christian cathedral partly explain these differences. The church of the Christians, as its name declares—ecclesia (assembly)—is not only the abiding-place of the Deity, but the place of meeting for the faithful. It would in such a case have been ridiculous to construct the steps of such a height as to be hard to climb. The Greek temple, on the other hand, was looked upon solely as the dwelling of the god, who was represented by a more or less colossal statue entirely filling it. We know that in some cases the statue was so large that it could not have assumed an erect posture without bursting through the roof. The public never entered these temples. All they did was to march round them in certain of the annual ceremonies; we therefore need feel no surprise that the steps and doors had proportions superior to those intended for men—they were on a divine scale.

Canterbury Cathedral.

The gradual growth of an English church is nowhere to be studied better than at Canterbury, where we are so fortunate as to have the account of the building of the cathedral by two monks, Edmer and Gervaise, one of whom described the history of the church in 1130, and the other its burning and rebuilding at the end of the century, and this last saw the work absolutely in progress very much as we now have it. What happened at Canterbury gives us in a clear way an insight into what happened much in the same way in other dioceses. The Saxon church was probably one built, as far as outline is concerned, to a considerable extent on the lines of the basilica of St. Peter. St. Augustine and his successors were so distinctly identified with Rome that it would have been certain in any case that this would be so, had not Edmer’s account led to the same conclusion. Archbishop Lanfranc took this church down and rebuilt it on a larger scale, finishing his work in 1130. His plan included a nave with aisles, transepts with eastern apsidal chapels, and a short choir, probably finished with three eastern apses. The church was enlarged by another archbishop in order to satisfy the desire for a large choir, which involved in so many cases the destruction of our old cathedral choirs; and in 1174 the enlarged church had arrived almost at the dimensions which it still has. It had a long choir, an eastern transept—in addition to the ordinary central transept—a great apse with an aisle round it, and apsidal chapels on either side of the main apse, and probably to the east of it also. The columns and arches were low, the aisles were vaulted, but the central portion was roofed with a wooden roof, ceiled on the under side. This was again burnt in 1174, and the archbishop forthwith called in a French architect, William of Sens, who retained but increased the height of the columns and arches, and covered the whole choir with a stone vault above a triforium and clerestory. His successor, William the Englishman, finished the church by the erection of a second apsidal choir with an aisle round it, which was built to receive the shrine of St. Thomas à Becket, and east of this a circular chapel, or corona, as it is called. The whole scheme is now one of the most beautiful in Europe. The gradual narrowing of the choir before the junction of the eastern apse with the apse of Ernulf or Anselm is the result of the ingenious utilisation of the older church foundations still existing in the crypt. The same economical considerations affected the builders of many of the enlarged choirs of our cathedrals, as, *e.g.* Winchester and Gloucester, where the existence of a semicircular crypt compelled the later architect, who could not afford to destroy the whole of the foundations, to adopt some ingenious system of plan to enable himself to combine the two. At the abbey of St. Denis, near Paris, precisely the same necessity compelled the architect to make the first bay of his choir incline considerably on plan. It is one of the charms of Gothic buildings that wherever such a necessity existed, it was honestly met, as a matter of course, by some arrangement which, while it explained the fact on its face to everyone, at the same time added to the picturesqueness and beauty of the design.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

The Twentieth Century.

SIR,—Mr. Honeyman is in my opinion all at sea over this question. Without such a lengthy letter as his I think I can explain. Take his own instances—the child first.

Till twelve months have passed the child is certainly not a year old, but at any time previously, even when only one day old, it is most emphatically in its first year. The year *one* of its existence.

The same with the clock. Directly twelve has struck another hour has commenced, the first hour—the hour of one. With the strike of one—the completion of the first hour—the second hour commences.

If Mr. Honeyman should sit down to write a letter in the early morning of Saturday next he will date that letter January 12. But according to his showing it is not really the 12th until 12 o’clock midnight of that day.

Supposing I were paying him a bill of 200*l.*, would he be content if, when I had counted 99, I called the next sovereign “one” for the second hundred? If I were paying him in shillings, and had completed 99*l.*, would not the next shilling be the first of the hundredth sovereign?

The day after December 31, 1899, was the first day of the hundredth year (the 00) of the century, but that century was not complete until the 360 odd days had been added.—Yours faithfully,

January 5, 1901. CENTURION.

SIR,—I am pleased to see Mr. Honeyman’s letter in your last issue, in which he very clearly shows the fallacy in connection with the apparently widespread belief that the nineteenth century ended upon the 1st of this month.

It is a good illustration of the want of depth of thought at the present time that such a question can be discussed at all.

The measurements of time and space being mathematical certainties, how can there be any doubt as to when a century begins or ends?

As your correspondent quite correctly says, no such measurement can start with 1, for before 1 is reached the interval of 0 to 1 must first be traversed.

It is just as absurd to call the year 1900 still part of the nineteenth century as to say that when a man has reached and passed his nineteenth birthday he is not in his twentieth year.

There can be no question about any person’s age; it must start from zero or the moment of birth, and yet many people seem to contend that a child is one year old when it is born. I have convinced several people of the truth by means of a watch with a long second hand, and demonstrating to them by their own eyes that if you count one minute, starting from the centre of the figure XII. as the zero point, the minute is completed round to the same spot again at the end of the fifty-ninth second. No one can dispute this, surely. The mistake, as your correspondent points out, appears mainly to arise from the fact that the figures denoting any given space of time or distance are placed, and must be placed, at the end of that space; also probably from the confusion that seems to exist in the minds of many people between the cardinal and ordinal numbers. Thus they mistake the first year for the year 1, and this, I think, explains the matter.—Yours truly,

BERNARD SHADWELL.

29 Vicarage Road, Leyton, N.E.:
January 9, 1901.

SIR,—Mr. Honeyman's letter will probably bring you many replies. I hesitate to add another, but it may be that in the absence of more convincing arguments mine may serve.

Mr. Honeyman's contention is based upon his unproved assumption that we cannot rightly apply the terms "day," "month," "year," "century" to any such period of time until it shall be fully completed. If this is so we ought not to speak of Her Majesty's "reign," because that also is not yet a completed period. He also draws (as others have done) an analogy from the life of a child. He further propounds a series of conundrums which perhaps can be answered by the "ordinary man," to whom, as he says, the point is so manifest. Other less ordinary men can safely leave them unanswered.

The "other than ordinary man" in speaking of a child's life would most probably say that from its birth till the end of its twelfth month things had happened to it during its first year of life—that is to say, its year 1. The moment the child passes its first birthday it will be one year old, but events then occurring will be recorded as happening during its second year of life. Would it be natural to dismiss from thought such events as happened during those first twelve months with the remark, "Oh! they do not count; that was the child's cypher year?"

It does not matter in the least at what point in time the Christian era began, but certainly most people will find it difficult to think or speak of the earliest measured periods as the "year nothing," or the "nothing century." The "year 1" will still for the "other than ordinary man" designate the period of time that elapsed from the assumed commencement of the era, the first January 1 till the next December 31, and the "first century" will similarly cover the period from that same January 1 till December 31 of the year 100, at which time (and not at the end of the ninty-ninth year) 100 complete years would have passed.—I am, Sir, yours truly, G.

34 Loughborough Road, S.W.:
January 9, 1901.

Re Geysers in Bathrooms.

SIR,—As you have printed recently in your issues letters on the above subject, may I be permitted to inform the profession through the same channel that thousands of my patent "Caldas" have been in constant use without causing any serious accidents of the nature described.

They are constructed on the principle of obtaining the greatest amount of heat to the water in passing through, with the least possible consumption of gas; and further, their principle is so arranged as to act to a very large extent as a condensing stove, so that the products of gas escaping are small.

It is well known that in many cases geysers with flue pipes are a failure, and even those makers who fit flue connections to their geysers are careful to provide against the possibility of back-draught by arranging a ventilated top, so that the fumes in such cases are blown again into the room.

If persons using geysers in a small room were to open the window a few inches top and bottom, a system of perfect ventilation would be obtained, and we should then not only be relieved from the inconvenience of back-draught, but should hear no more of such lamentable accidents as those recently recorded.—Thanking you in anticipation, I am, Sir, yours truly,

G. SHREWSBURY.

January 4, 1901.

P.S.—The water in my patent "Caldas" has no connection with the gas, and passes through chambers constructed of well-tinned copper.

The District Council of Shipley propose to raise 462,500*l.*, part of which will be expended on building, viz. offices and fire brigade station, 25,000*l.*; baths, 10,000*l.*; street improvements, 40,000*l.*; Salt schools, 6,500*l.*

GENERAL.

An Influential Committee is being formed to promote a scheme for the restoration of St. Mary's Church, Chatham.

Mr. John Bayliss, retired contractor for public works, has bequeathed 1,000*l.* to the benevolent fund of the Institution of Civil Engineers, and 1,000*l.* to the Institution of Civil Engineers for a Bayliss prize.

Mr. E. Crutwell, of Westminster, has obtained the first premium of 1,000*l.* in the international competition for the design for a bridge connecting Sydney with the North Shore. The estimated cost of its realisation is 2,927,236*l.* There were twenty-four competitors. The judges have not recommended the adoption of any of the designs.

A Paper on "The Art of Designing Small Houses and Cottages," by Mr. Barry Parker and Mr. Raymond Unwin, will be read on January 24 before the Society of Architects. It will be illustrated by drawings and lantern slides.

The New Académie de Médicine, in the Rue Bonaparte, Paris, of which M. Rochet is the architect, will not be opened until December.

Sir Charles Gavan Duffy, formerly editor of the *Nation*, and subsequently a Prime Minister in Australia, has presented his collection of books, manuscripts and relics relating to Ireland to the Royal Irish Academy.

Mr. A. H. Barker is to deliver a course of six lectures on works' management to the members of the Institution of Civil Engineers. The first will be given on February 5.

Mr. George Smith, whose genre pictures were at one time admired, died on the 2nd inst., in his seventy-second year. He assisted the late C. M. Cope, R.A., with the frescoes in the House of Lords. Latterly he practised as a connoisseur.

A Bill is to be promoted by Bristol in Parliament to build a new dock at the mouth of the river Avon at a cost of 2,000,000*l.*

The Conference of Australian Architects which was to be held in Sydney last week was to discuss the proposed Federal Council of Australian Architects, uniform charges for Australian practice, secret commissions, architectural education, a federal travelling scholarship, strength of Australian building materials, and the amount of work carried out by the State Governments to the detriment of architects in private practice.

German Sculptors have been invited to send in designs for the monument to be erected in Berlin to Richard Wagner. The committee has resolved to divide 1,000*l.* amongst the authors of ten designs from which a final selection will be made. The total cost of the memorial, which is to be of marble, must not exceed 5,000*l.* The Kaiser has selected the site, and the monument, by his desire, will correspond with those already erected to Goethe and Schiller in the Thiergarten.

A Deputation of Architects in Sydney waited on the Premier and Minister for Public Works, and asked that the Government should invite designs for new Parliament Houses, and that the competition be open to architects in all the colonies. The Ministers, it is said, gave a favourable reply, and promised to give a definite answer at an early date.

Mr. Leonard Potts has been appointed town clerk of Poplar at a salary of 600*l.* a year; Mr. O. E. Winter, borough surveyor; and Mr. Blackman, borough electrician.

The Subscriptions which are being raised for the erection in Dublin of a statue of Queen Victoria have reached 2,500*l.*

The Plans for the University of California have been so simplified by Mr. Benard as to bring the cost of their execution down to a sum estimated at 8,000,000 dols. to 10,000,000 dols. In their new form they have been adopted by the Regents.

A Meeting of the Royal Institute of the Architects of Ireland was held on Monday, when the following resolution was carried unanimously:—"The Council of the Royal Institute of the Architects of Ireland having had the result of the Presbyterian Assembly Hall competition (Belfast) brought before them, are of opinion that the conduct of the competition committee in not following the usual and proper course of publishing the report of their assessor (which they understand was an open document), and in appointing as architects to the new building the firm who drew up the original very unsatisfactory conditions, is deserving of their condemnation as being absolutely opposed to the methods which should govern all fair and impartially conducted competitions. The Council consider the proper course for the committee to have adopted was either to have given the work to the gentleman placed first by the assessor, in conjunction with a consulting architect of experience, or else to have invited a fresh competition with more satisfactory conditions than the previous one."

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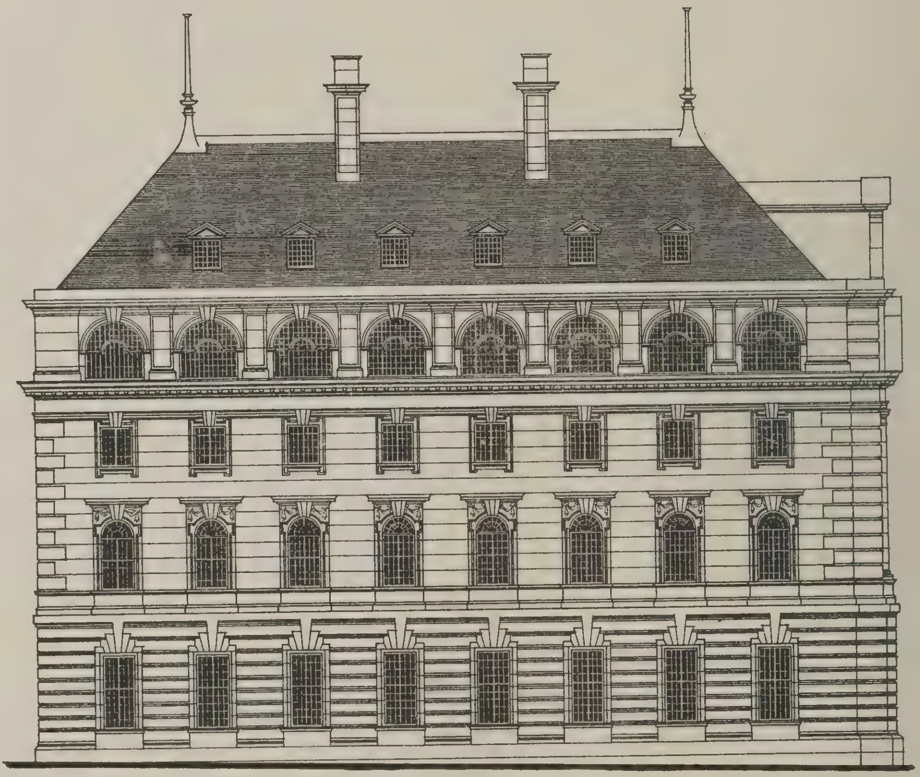

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THE LONDON COUNTY COUNCIL HOLBOR

Jan 11th 1901.

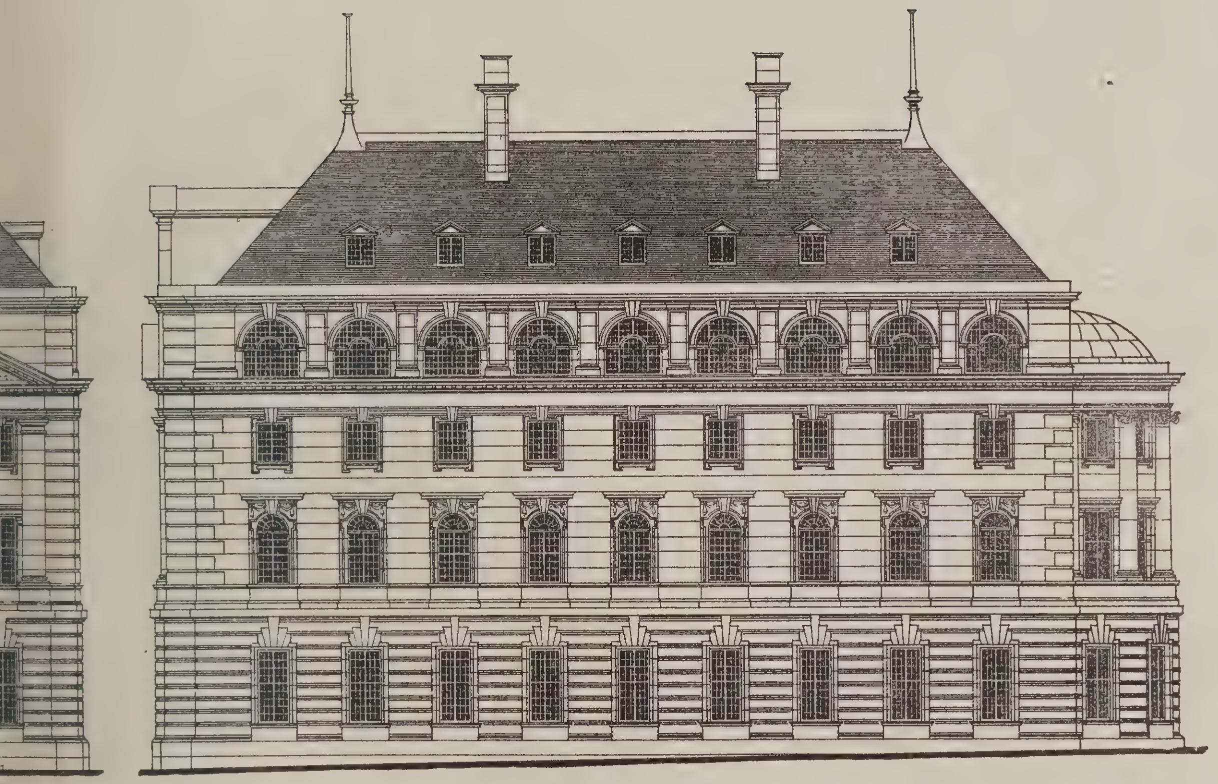

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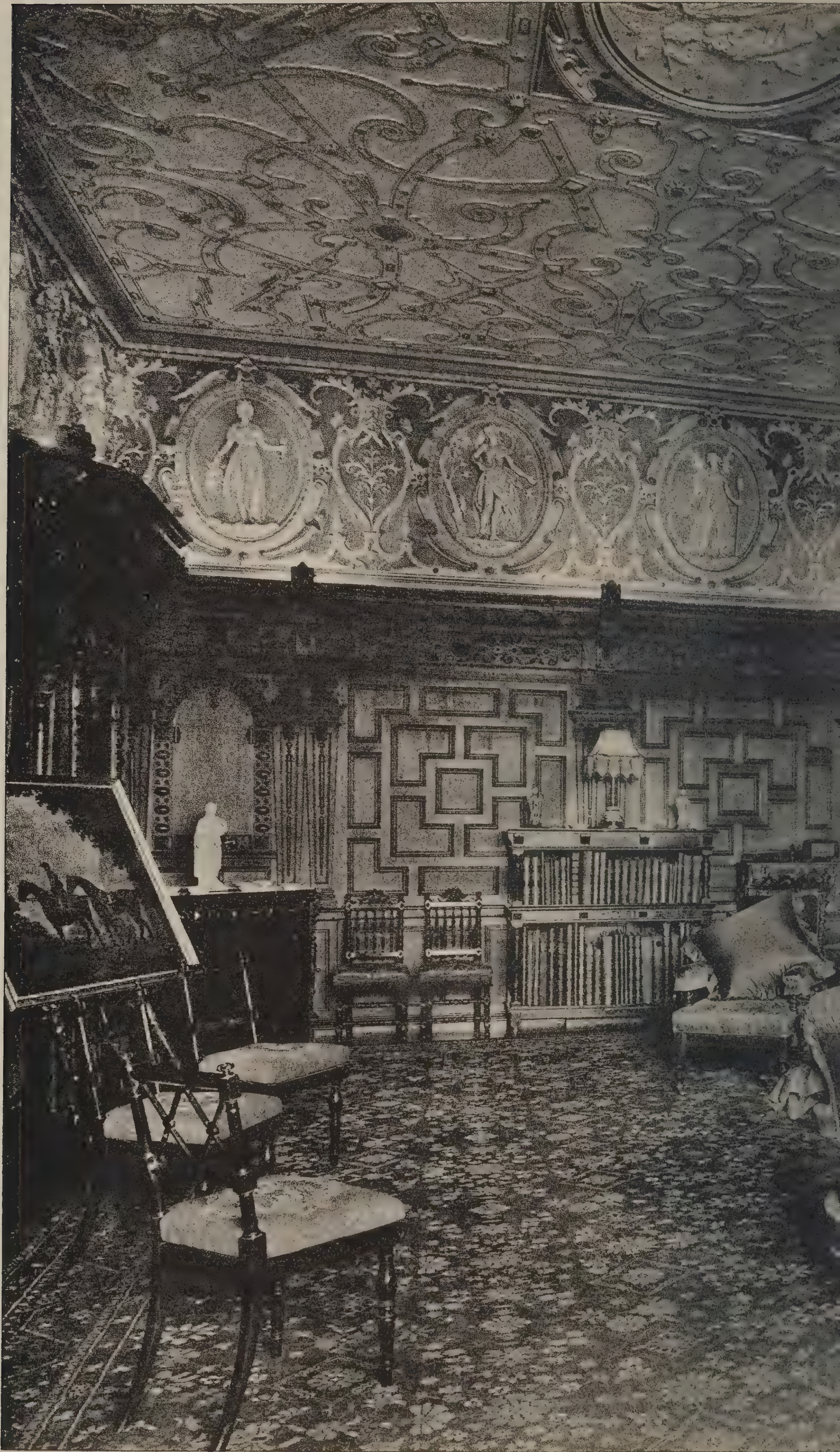
PHOTO-LITHO. SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

ND STRAND IMPROVEMENT. DESIGN No. 26.



FROM A PHOTOGRAPH BY J. BULBECK & CO., 166-8 STRAND, LONDON.

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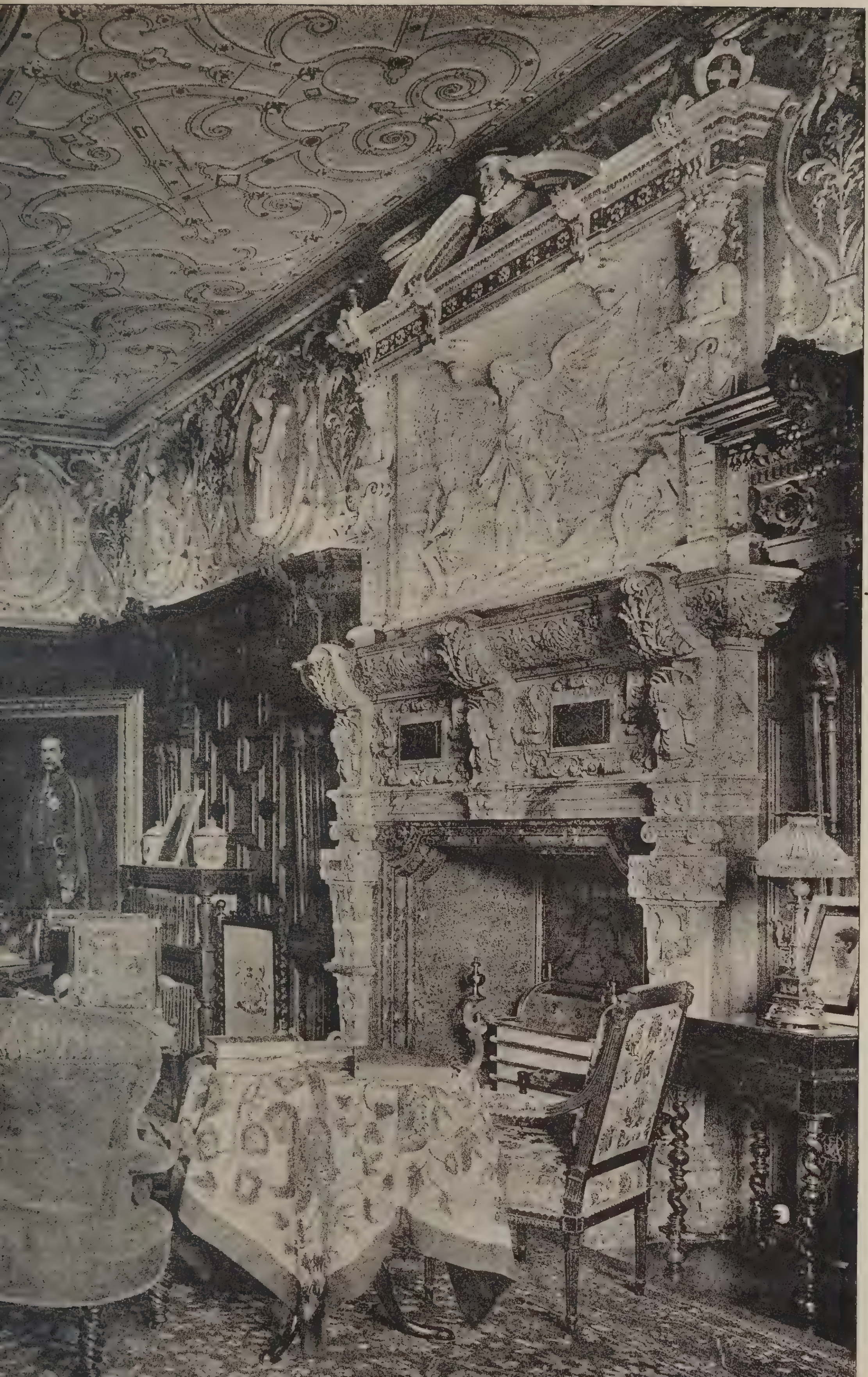
The late E. M

Jan 4th 1901.



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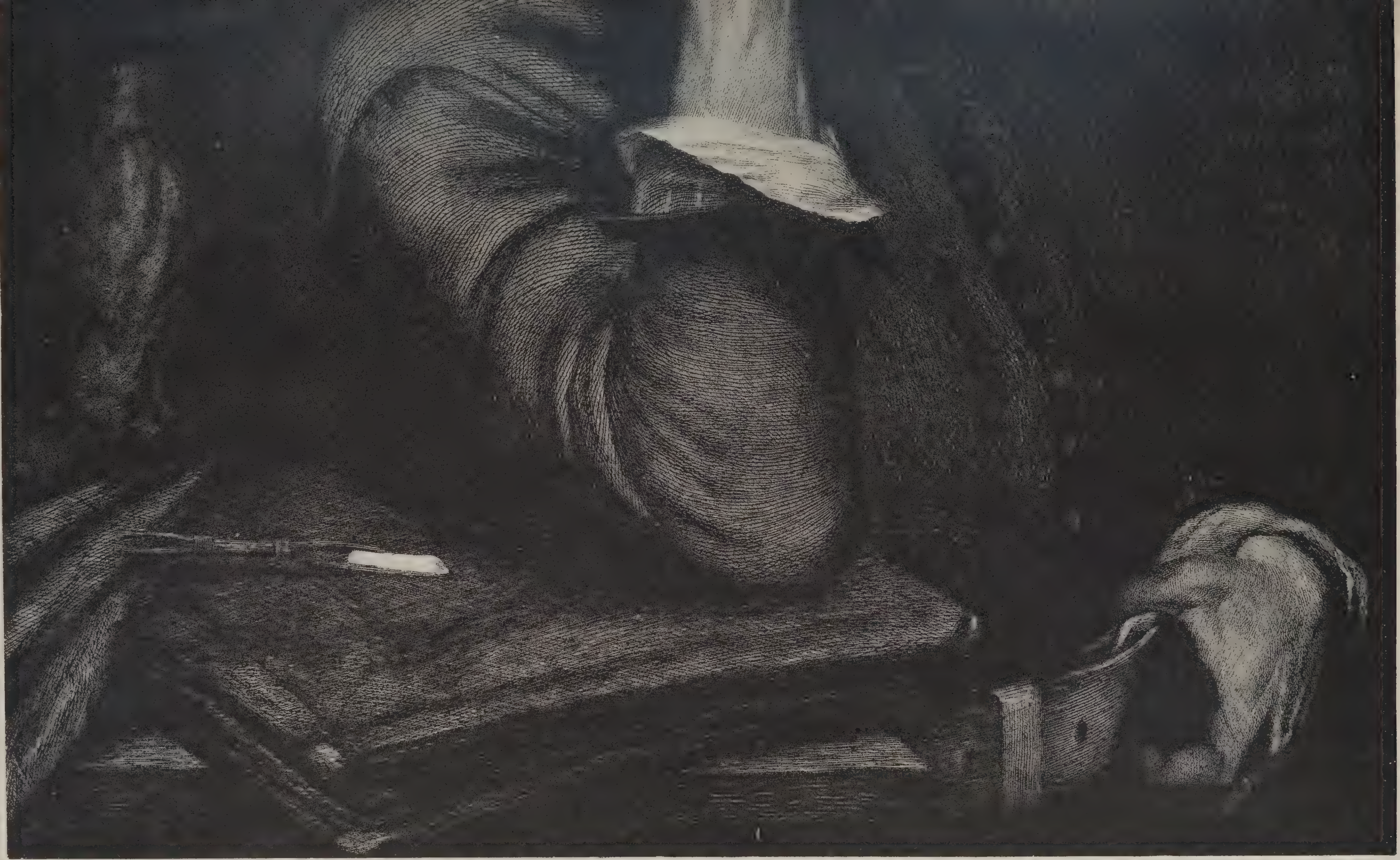
Y, R.A., Architect.



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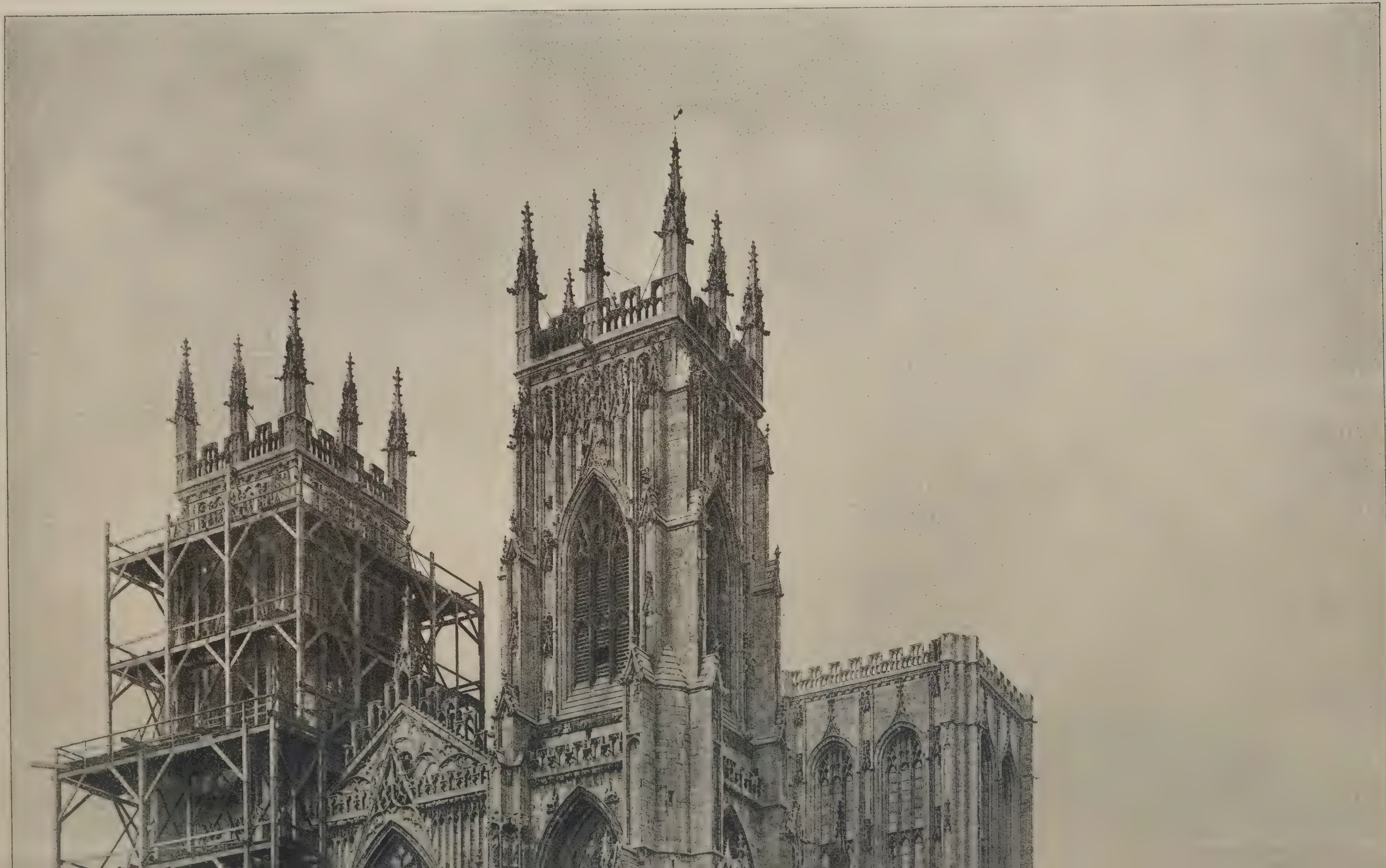
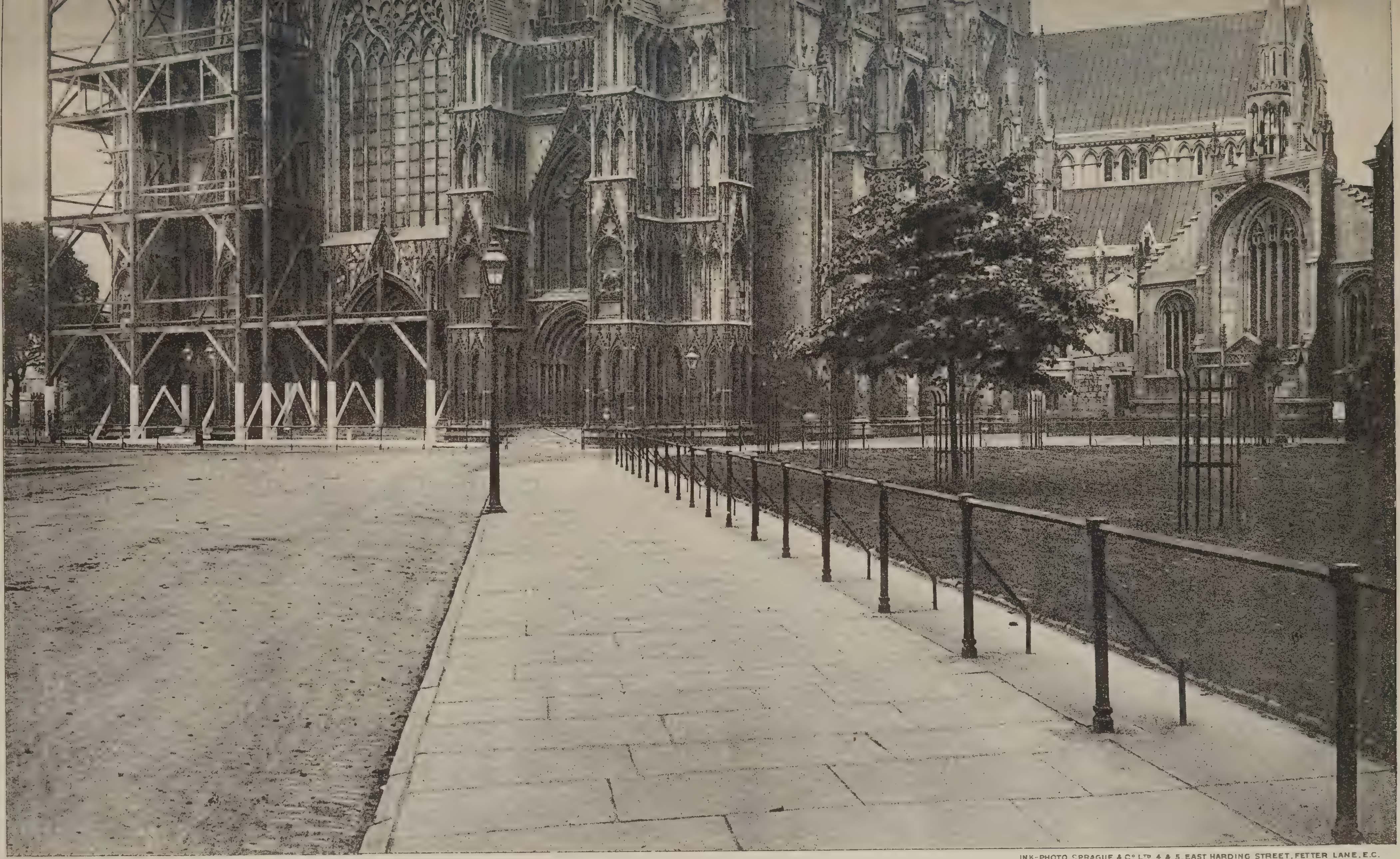
THE ARTIST WITH THE CINCTURE.
BY GUSTAVE COURBET.





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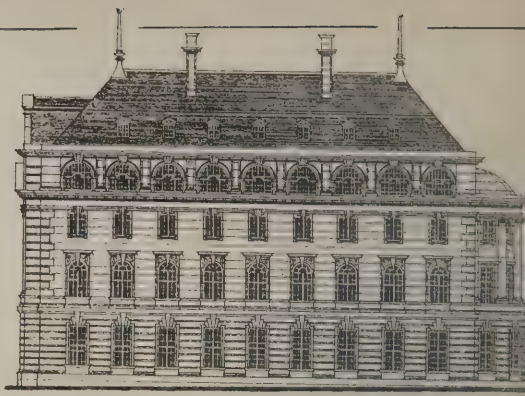
CATHEDRAL SERIES, No. 316.—YORK MINSTER: GENERAL VIEW FROM NORTH-WEST.



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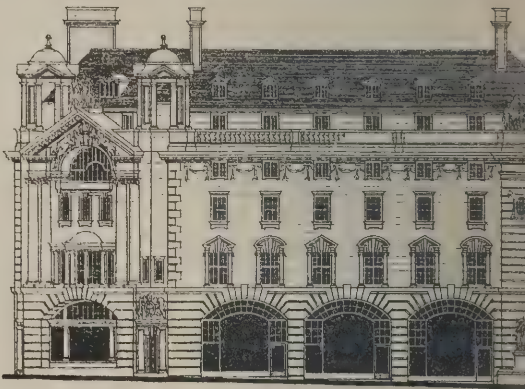

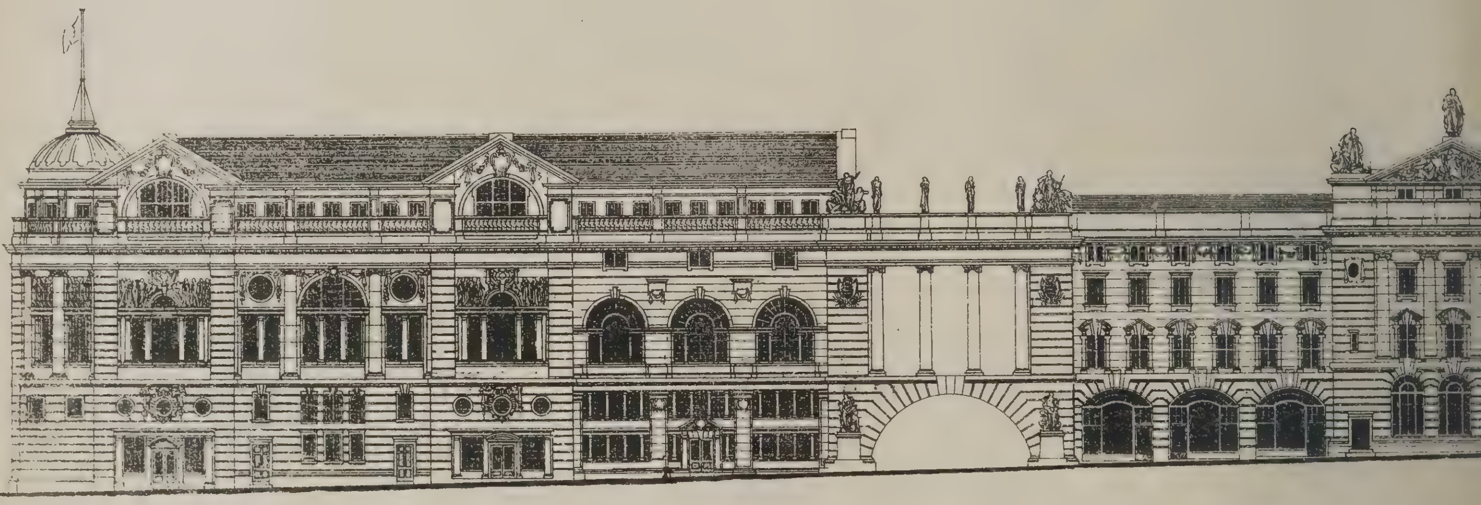

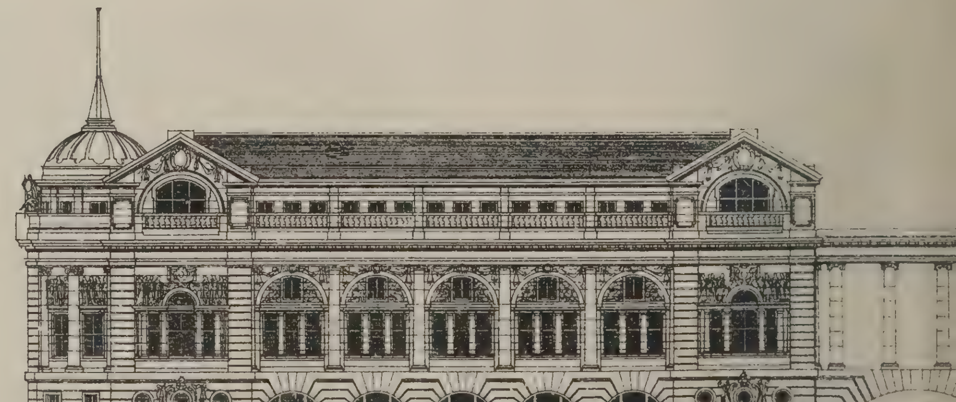

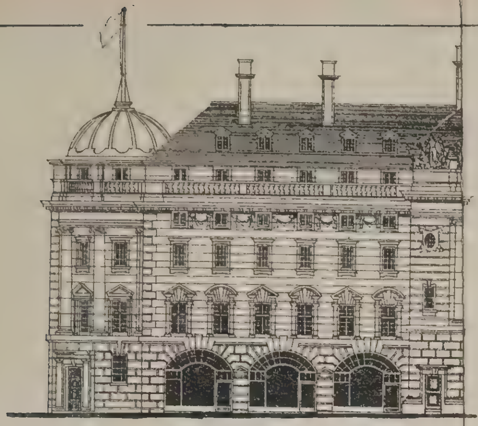

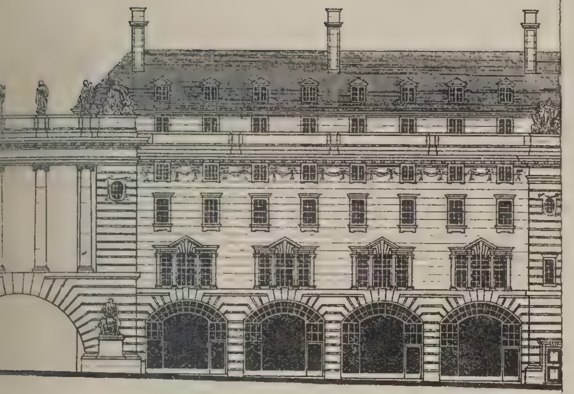

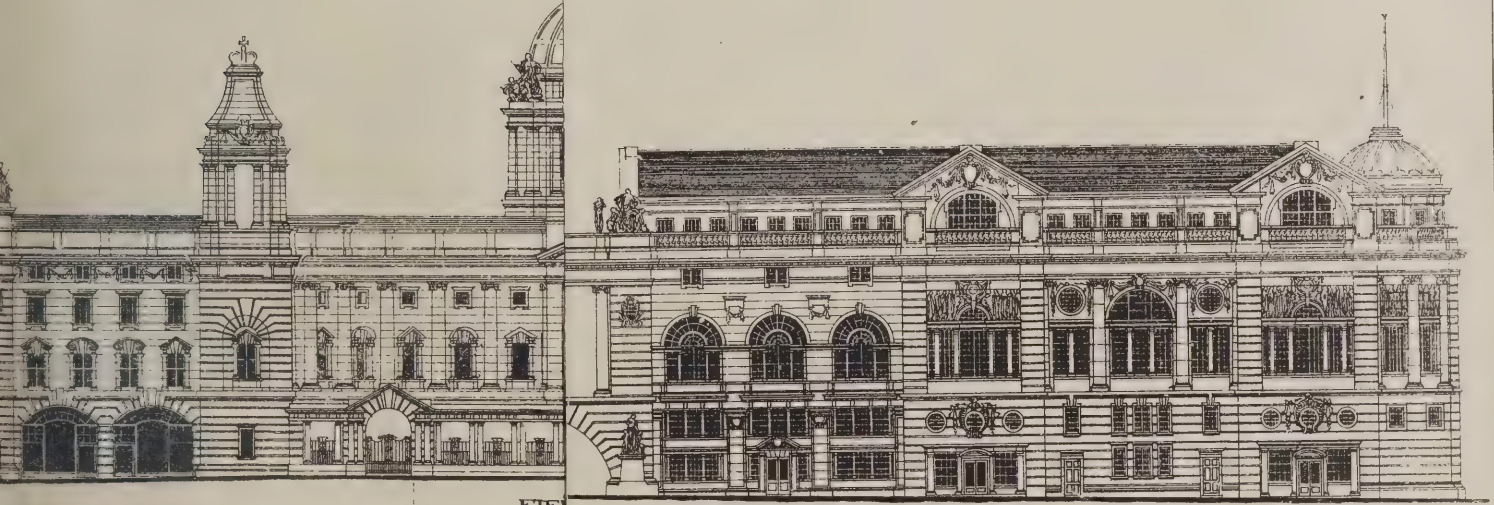

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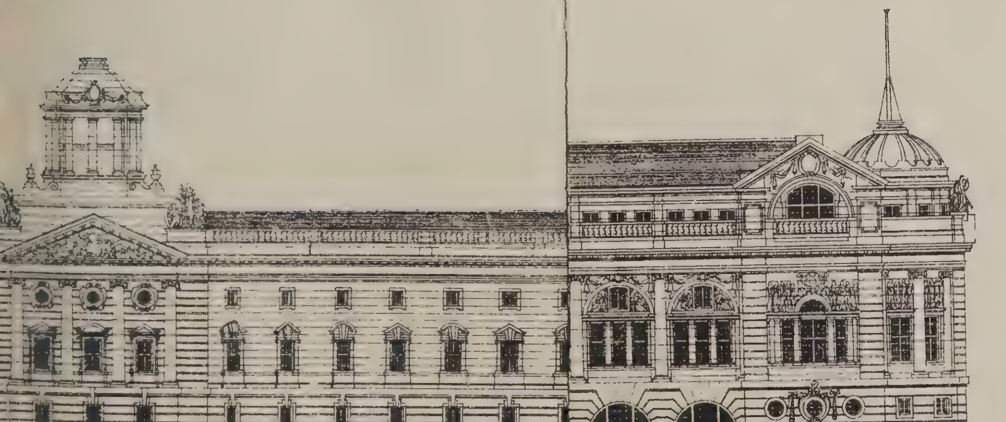

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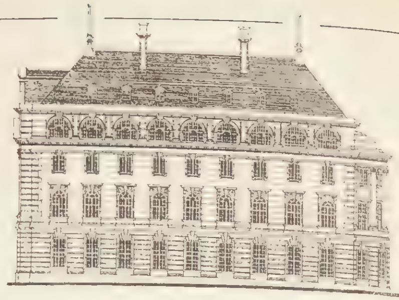

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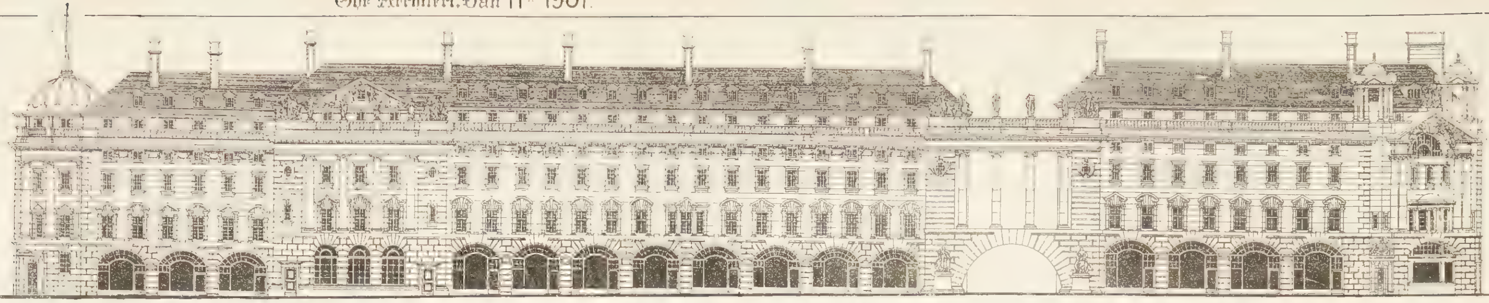

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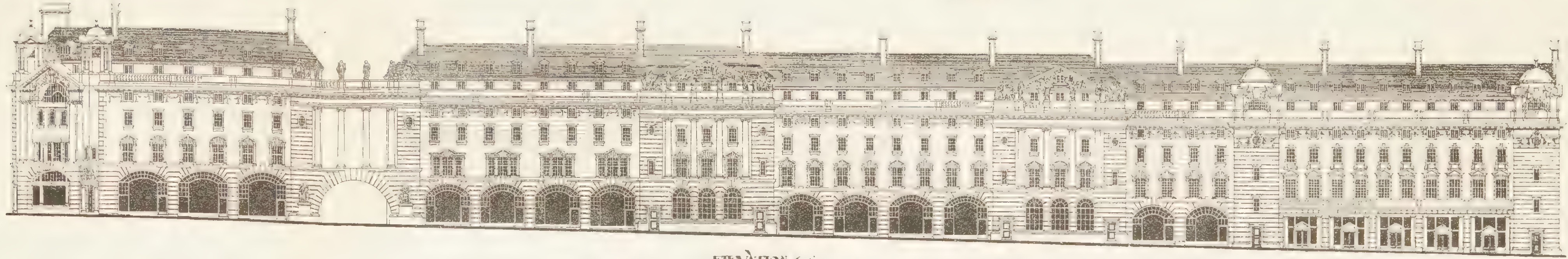

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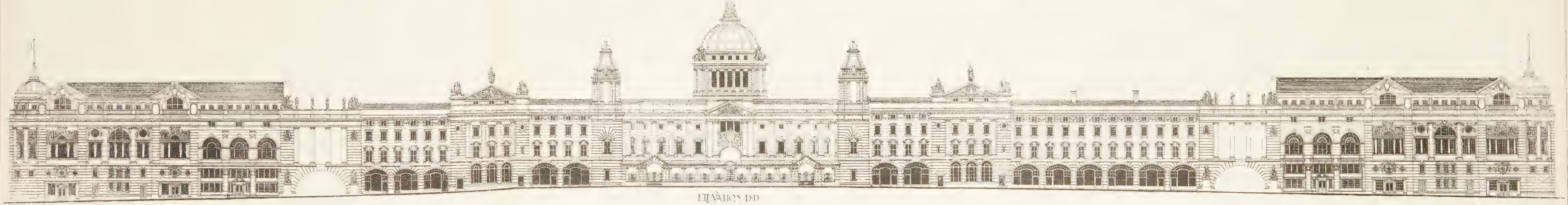

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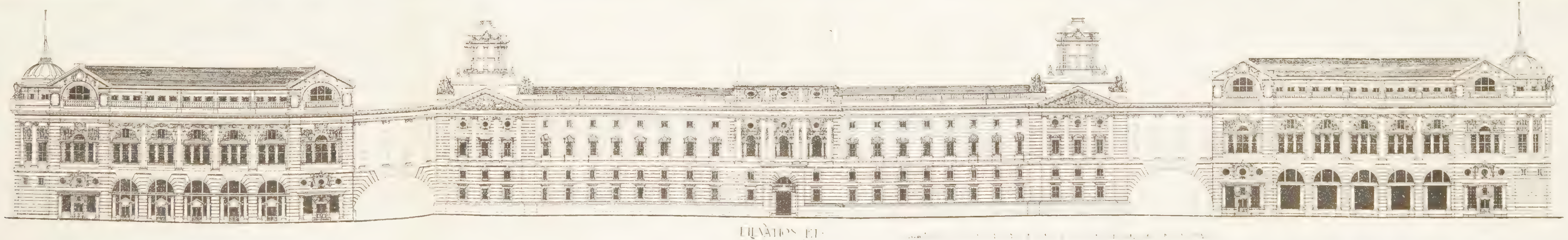

ELEVATION E-E.
Facing THE STRAND

THE LONDON COUNTY COUNCIL HOLBORN AND STRAND IMPROVEMENT. DESIGN No. 26.

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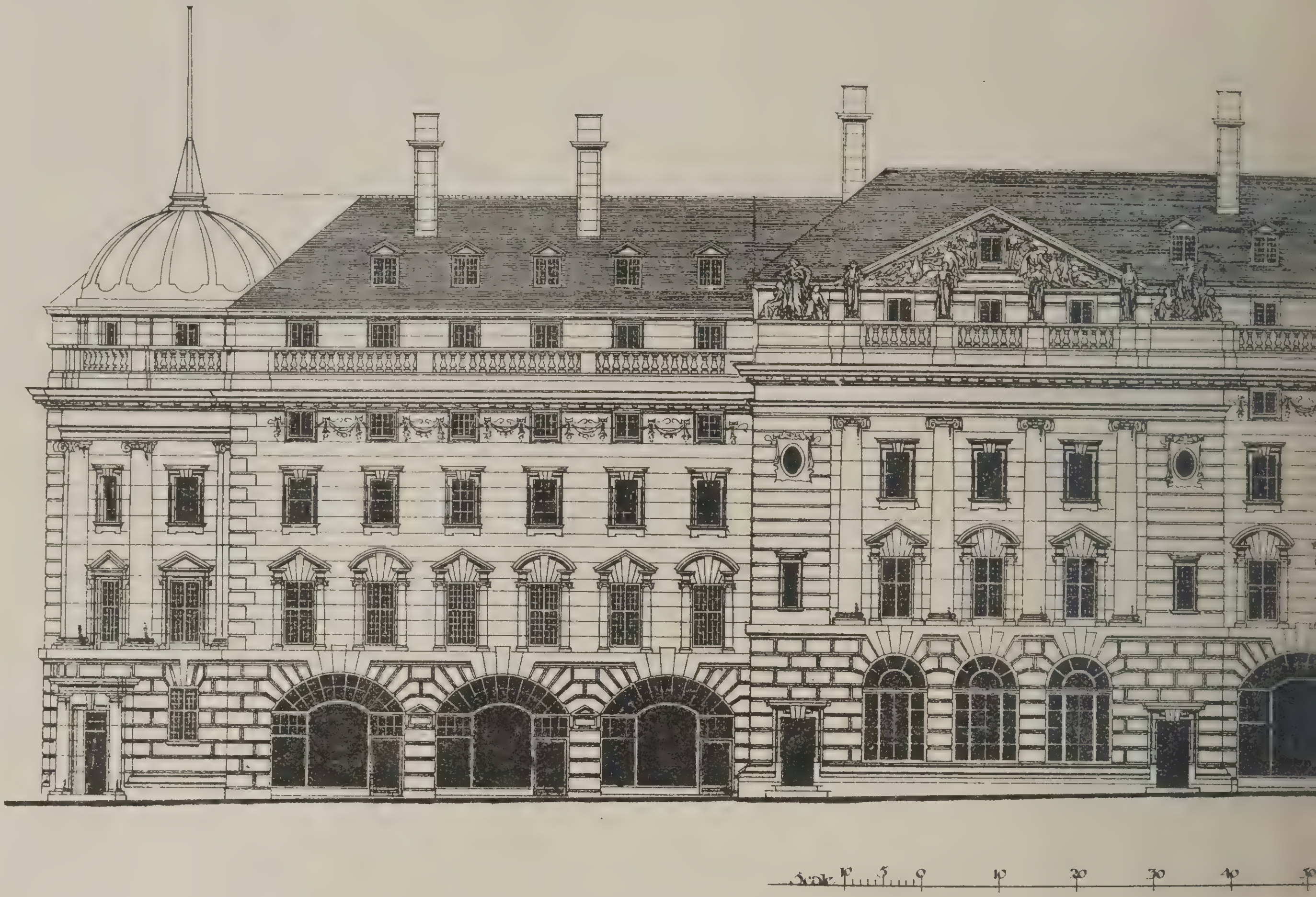

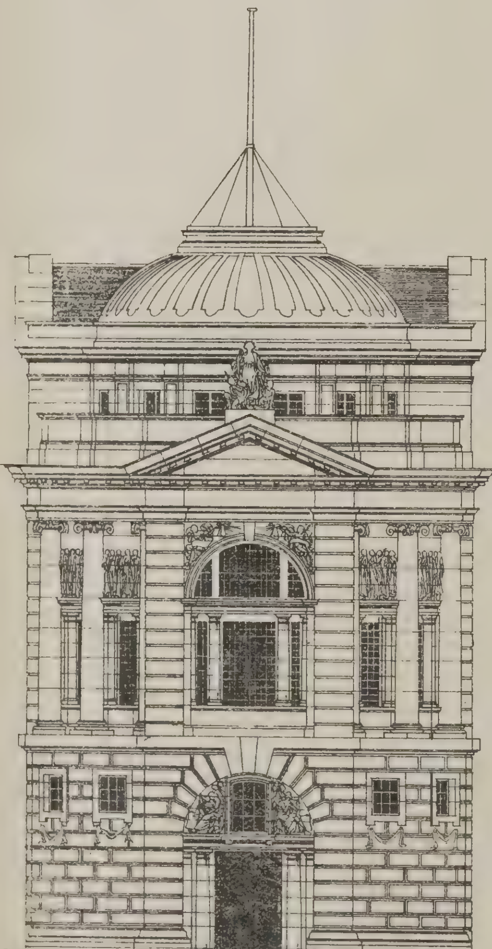

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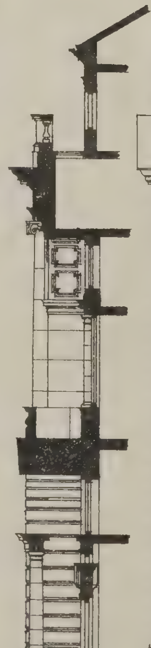

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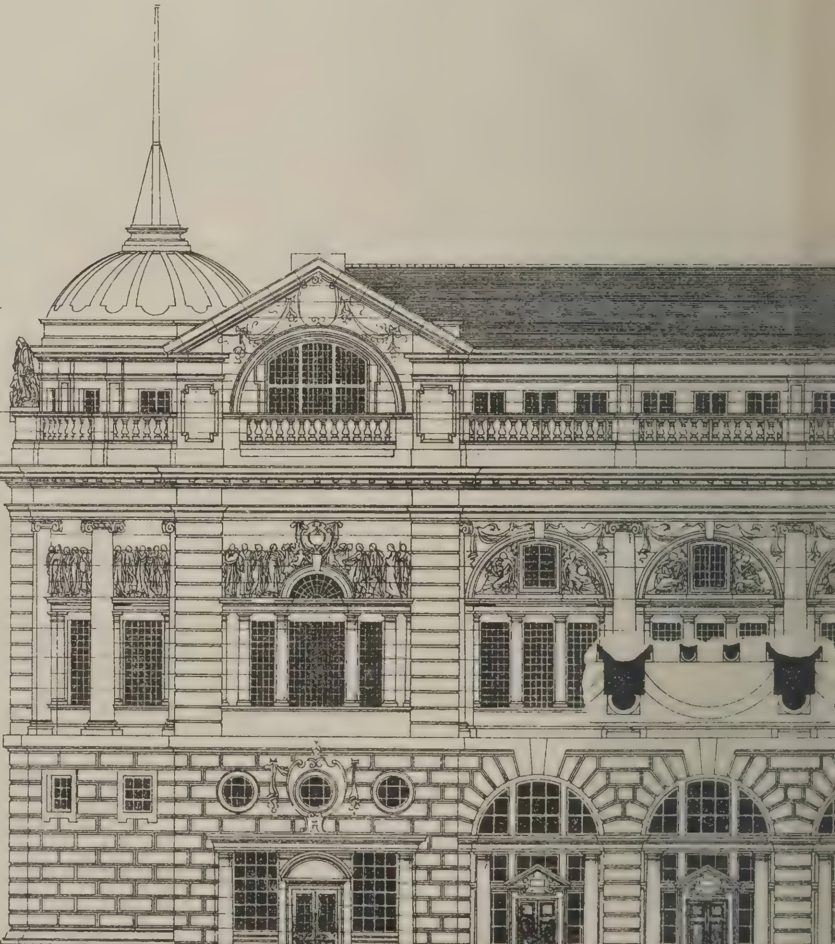

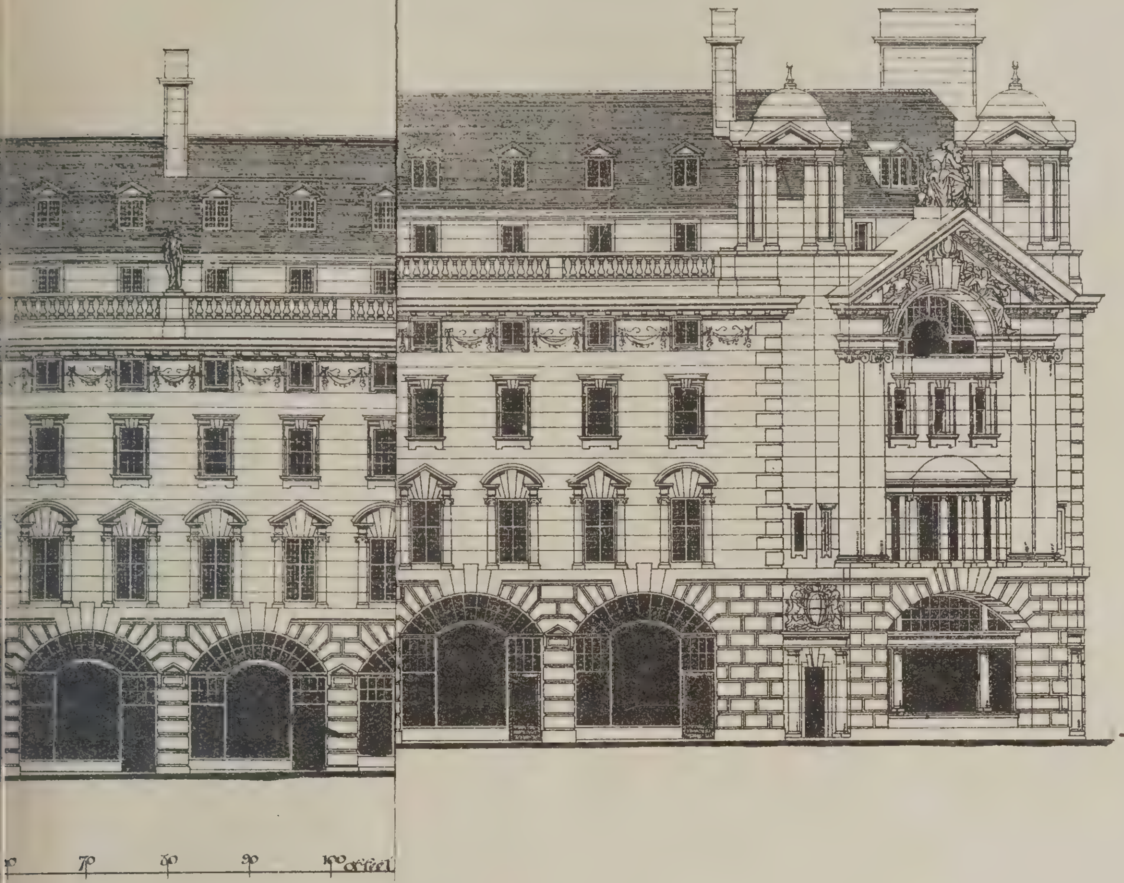

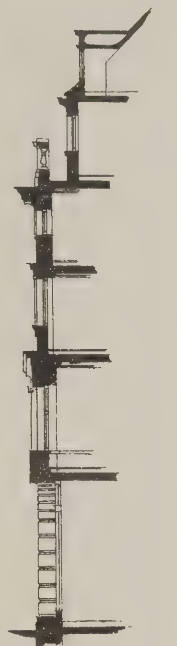

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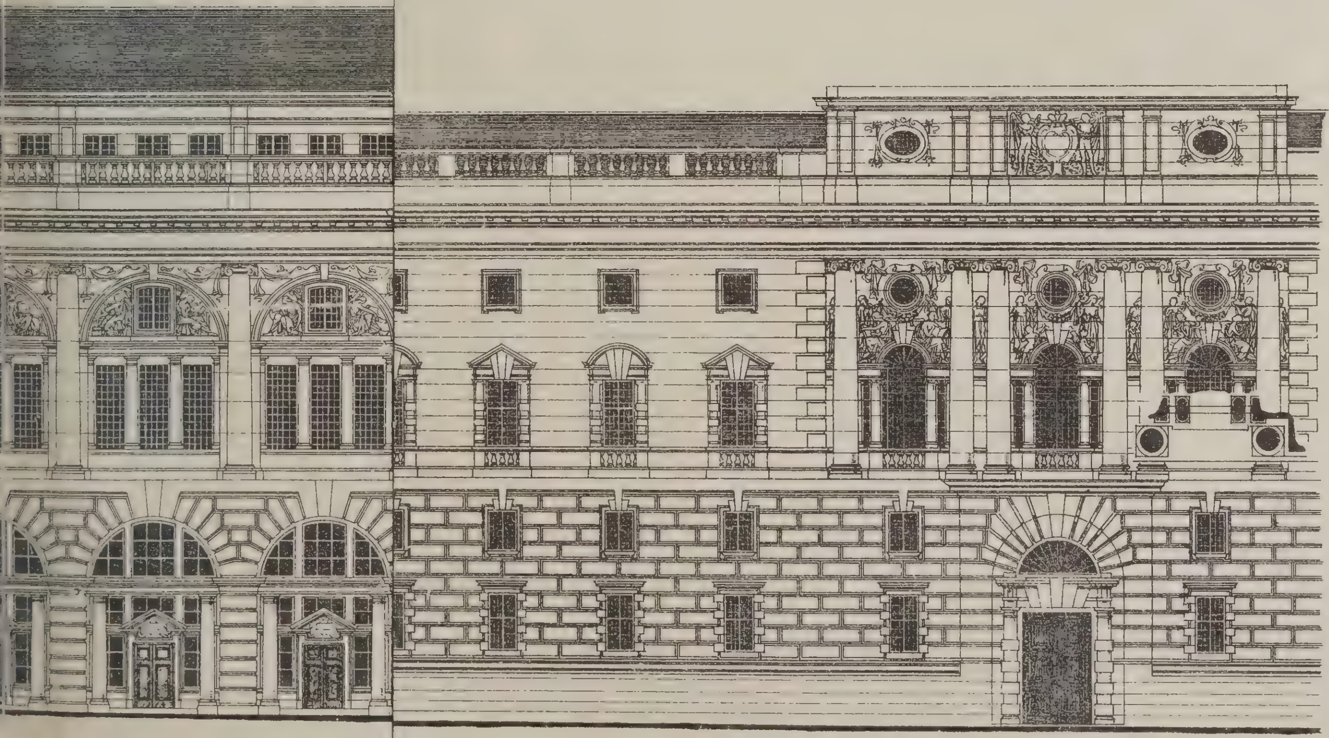

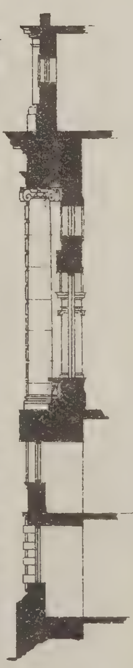

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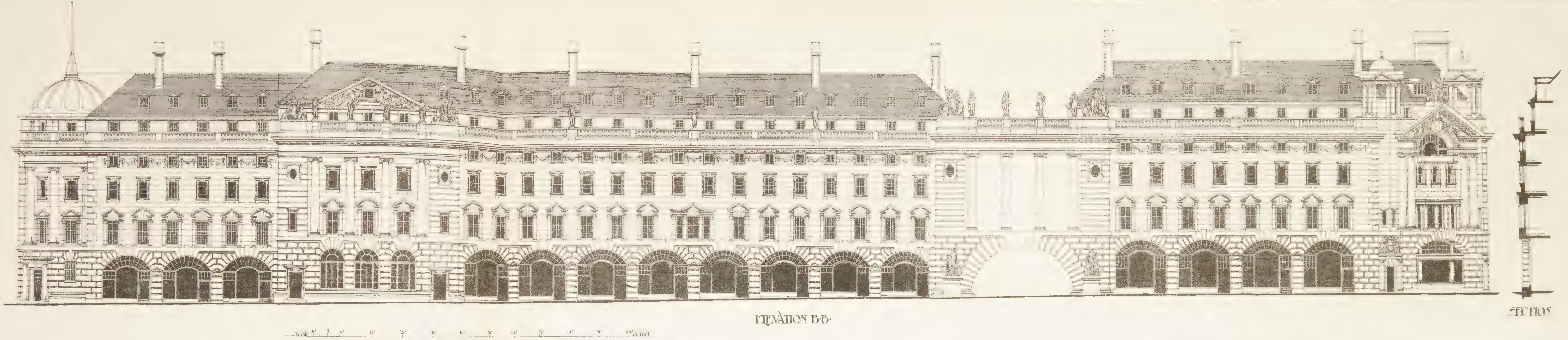
THE LONDON

The Architect, Jan 11th 1901.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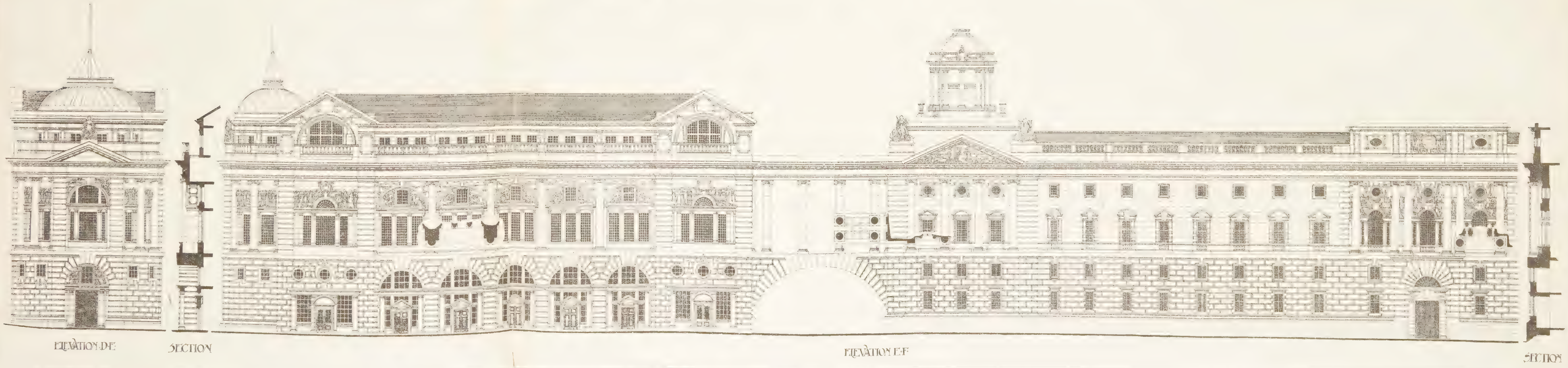
ELEVATION D-E.

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ELEVATION E-F

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THE LONDON COUNTY COUNCIL HOLBORN AND STRAND IMPROVEMENT. DESIGN No. 26.

The Architect.

THE WEEK.

The apparent ease with which actions for damages against architects arising from carelessness succeed is ominous. Two cases have been heard within the last week. At Stafford, in the case of Boyes & Son *v.* Adshead, which was allowed to go by default, the damages were assessed by a jury. The plaintiffs claimed 52*l.* 16*s.* 6*d.* The defendant was to prepare plans and superintend building operations. The plaintiffs complained that the work was not attended to, and said they must engage another architect. That course had to be followed, and the second architect received 32*l.* 10*s.* 6*d.* in fees. It was alleged that some part of the work was not properly executed. The Under-Sheriff said the claim was reasonable, and the jury accordingly assessed the damages at 52*l.* 16*s.* 6*d.* An adjourned case, Harris *v.* Babb, was heard at Wrexham. The plaintiff, an architect, sought to recover 30*l.* 16*s.* for fees. The defendant put forth a counterclaim of 150*l.* as damages on account of plaintiff's incompetence and negligence. The jury found for the plaintiff for the amount claimed, but they assessed the damages at 82*l.* 14*s.*, and the judge said the defendant was not liable for a claim for bricks amounting to 47*l.* 5*s.* 9*d.*, or in all 129*l.* 19*s.* 9*d.* From that sum was deducted 30*l.* 16*s.*, plaintiff's fees, and judgment was accordingly entered in favour of the defendant for the net sum of 99*l.* 3*s.* 9*d.* In both instances the work done was not large, and the amount of damages is therefore more remarkable. It is too generally supposed that an architect is a privileged person, in fact an independent judge, and so long as he is supposed to act with "reasonable skill," he is secure from liability for damages. It is now evident that judges have become more exacting, and unless it is manifest that other architects of experience and skill would act in the same way, a claim for damages has a chance of succeeding. The remedy, of course, lies with architects.

Before the Paris International Exhibition was opened a controversy arose about the fitness of the figure *La Parisienne*, by M. Moreau-Vauthier, which surmounted the great gateway. The figure and the gateway have just been sold for the small sum of 10,100 francs, or about 400*l.* The contractor will be allowed two months for taking down and removing the materials. The bargain will be realised when it is said the gate consisted of nearly 205 tons of iron, 6,700 cubic feet of wood, 1,600 square feet of brick, 25,000 cubic feet of stone, and 7,500 panes of coloured glass. In addition, there is the colossal statue, which must now have gained historic interest, and for which a liberal price is likely to be obtained.

The temple of Sunium, which stood high upon the coast of Attica, and which was visible from a long distance at sea, must have been one of the most picturesque landmarks to a Greek mariner. About a dozen of the Doric columns are still standing, with the architrave, and the ruin is therefore a great attraction to travellers. In 1667 there were nineteen columns, and in 1729 the number was reduced to seventeen. It was generally held that the structure was of later date than the Parthenon, and according to Vitruvius it was the model used for the Temple of Castor at Rome. As the marble is so exposed to the sea air the lines of the fluting have lost their sharpness, and the marble, instead of the golden patina seen in the Parthenon, shows its original whiteness. There are several fragments of columns and other remains scattered around the temple, and they suggest that at one time there may have been several buildings on the promontory. It has long been questioned who was the deity of the place. Pausanias speaks of the temple as dedicated to Athené. But other ancient writers mention Neptune as the presiding deity. In order to determine the truth the Greek Archæological Association, under the direction of Dr. Stais, have undertaken excavations at Sunium. It was not long before they were convinced that some explorers had been at work before them. The ruin was at one time known as the Palace of the King's Daughter, and the natives searched after treasure reported to be buried. Much that would have interest for archæologists may have been removed. Dr. Stais expected to find some fragments of sculpture belonging to the pediment which would have settled the question. He was disappointed. However, he met with a piece of stone which is perhaps no less convincing. On it is engraved an inscription recording the affection of some soldiers stationed at Sunium for their officer, and announcing that the stone was to be deposited in the Temple of Neptune as a record. It may therefore be assumed that the temple was under the protection of the Sea God rather than of his rival Athené. Possibly there was a temple to the Goddess to be found at a short distance. It has been also ascertained that a propylæum and two halls were to be found near the Temple of Neptune.

That amateur architects incur financial liabilities was exemplified in a case heard before Sir Horatio Lloyd in the Wrexham County Court. Messrs. Rogers & Son, builders, claimed 15*l.* 2*s.* 9*d.* for extra work at Vron Church from Mr. Butler, a colliery owner. He was enthusiastic about the new building. He altered the plans in order to create a model church, and he supplied the bricks. The vicar appreciated so much interest by a layman, but he took the precaution of saying that Mr. Butler must be responsible for the extras, and he wrote to the builders to the same effect. Mr. Butler declined the responsibility, but the judge said that by presence and interference he had incurred liability. Judgment was given for the amount claimed, but no costs were allowed. The judge gave it as his opinion that the builders should not have executed the work without a definite contract.

M. Chaplain has prepared a medal as a memorial of the reopening of the Comédie Française. On the obverse is a portrait in profile of Molière. The reverse bears a tragic and a comic mask, and from the laurels surrounding them a Phœnix is seen rising. The figures 1680 and 1900 suggest the original and the latest houses of Molière. The last words that Molière wrote are also introduced:—"Mille. Mille annis. Vivat cent fois vivat." The Latin is not Ciceronian, but there were more limits to Molière's scholarship than to his humour. Copies of the medal will be given not only to the sociétaires and pensionnaires of the troupe, but the numerous employés of the theatre are also to be gratified by the receipt of them.

The Government of Madras have issued further instalments of the "Epigraphia Indica." Copies are given of inscriptions in caves and on pillars. The records generally relate to gifts to temples of land, lamps, tolls, villages, tanks, jewels, cows, fans, ornaments, &c., to the planting of palmyra trees, to the building of shrines, to the daily supply of a garland of flowers or of *tulsi* leaves, to presents of gold for the maintenance of temple musicians, or to endowments for oblations. One grant is believed to be of earlier date than the seventh century. The cave in which it was found is asserted to have been excavated by the Pallava King Mahendravarman I., who, so far as yet appears, was the first Pallava king to build rock-cut temples in South India. This and two others excavated by the same king at Trichinopoly and Vallam were dedicated to Siva, and the fourth, at Mahendravadi, to Vishnu. The inscriptions are also evidence that a revenue survey of the Tamil country was undertaken in the tenth and eleventh centuries, that murder was usually punished capitally, that accidental manslaughter might be expiated by a fine of cows, and that verdicts on the culprits were delivered by the assembled people of the district. Among the works to be undertaken in the next season will be the exploration in the neighbourhood of Cochin of the site of the ancient town discovered by Mr. Fawcett, superintendent of police; the examination of Sanskrit manuscripts at Mudbidri in the South Canara district and at Tiruvottur in the North Arcot district; and visits to certain other places in the South Canara and Kistna districts (of which, in the latter, the Buddhist cave at Guntupalle may be particularly mentioned), and to Worangal in the Nizam's dominions.

A GERMAN VIEW OF MODERN ENGLISH ARCHITECTURE.—II.*

IT is inevitable whenever there is great interest in architecture to hear demands for a new style. They were common in England in the sixties. It is pointed out by Herr Muthesius that the old error was repeated. It was thought that historic forms could be set aside, old tracks abandoned, and a new and complete series of details adapted to new materials and to new requirements could be created offhand. Earnest as might be the desires they could not be realised. There were three or four Gothicists, or Gotikers, according to him, who were able to grasp the fact that what was desirable was less revolutionary. They were Philip Webb, Eden Nesfield and R. Norman Shaw. The last soon abandoned Gothic ways and turned himself to the forms which were afterwards designated "Queen Anne." John Sedding is also mentioned as a man of wide-reaching influence on English art. What they all seemed to agree on was that it was not necessary to go far in time or place to find the elements of which they were in search. Especially were they inimical to what was then known as the "Italian villa," which bore a very insignificant resemblance to any Italian building of the class. They preferred the simplicity and naturalness of the old English country houses erected in the seventeenth and eighteenth centuries. Not even the work of Inigo Jones was accepted as an exemplar. Brickwork consequently obtained a new importance in their eyes. Herr Muthesius gives the credit to William Morris for having in the "Red House" at Upton, which was erected from the plans of his friend Philip Webb in 1859, attempted to display the first object-lesson in the new mode. But the experiment would now be looked upon as having more of a Gothic than a free-Classic character. The exterior is so severe as to be suggestive of a small nunnery. At the time Morris was busily employed in making furniture, and he wished the house should contain examples of his work especially made to fit the positions they were to occupy. Everything ready-made was to be excluded. The exterior of the house was of minor importance. Beyond the fact that bricks and tiles were used in it, the "Red House" cannot be regarded, nor was it ever taken, as a model for a Queen Anne building. Much more affinity will be found in the lodges which were erected by Mr. Nesfield in Kew Gardens and in Regent's Park. They were described as Queen Anne work, a phrase which soon became suggestive of whatever was fresh, natural and in good taste. The earliest adaptation of the style on a large scale is credited to Messrs. Stevenson & Robson, who were the architects for the majority of the new London Board schools, and which are described as the first protests *en masse* against the formalities of the contemporary Gothic and Renaissance architects.

But the man for the hour was neither of the architects whose works have been mentioned. According to Herr Muthesius, modern English architecture must be traced to Mr. Norman Shaw. He is "der eigentliche Vater der modernen englischen Baukunst." But we are afraid he would decline to recognise much that claims relationship to him. In partnership with Mr. Nesfield he built a house at Bromley in 1864, but his first great opportunity was with "Leys Wood" in 1868, to be followed in 1869 with another house at Beckenham and one at Harrow Weald, and in 1870 by "Cragside," the residence of the late Lord Armstrong. Each of them showed a secure grip of the spirit of the old provincial country-house, but appeared as a surprise to modern times. Then came the New Zealand Chambers in Leadenhall Street, which was a defiance of all that was said by Gothicists against the rising Queen Anne. The effect of the building was novel, although for the details authority could be found. It was believed to be the type of modernity. Gothic depended, it was claimed, on the influence of a very few men, and when they failed there was an end to the style. But the New Zealand Chambers were supposed to have met modern requirements, and therefore the building was in keeping with the time, and the style would continue until there was another revolution in ideas. Herr Muthesius dwells at length on the qualities which he perceives in the Leadenhall Street building, and it is evident he has been fascinated by the courage which was shown in erecting so modern a structure in so old a part of London. For the first time, he says, full freedom was exercised in the arrangement of the masses of the building. Light was necessary, and all that was available has been obtained by the character of the windows. Even the municipal requirements that the windows must not project beyond the wall plane were respected. Herr Muthesius refers to several of the later works of the architect, and shows how those in Bedford Park were influential on small houses throughout the country. Among other buildings he refers to the New Scotland Yard, which he remarks is the only great official building erected by the architect, and which he says is from beginning to end interesting. The "Chesters" in Northumberland is, however, regarded as a return to the Late Renaissance, which was introduced by Inigo Jones into England. "Bryanstone," in Dorsetshire, also shows the power of symmetry. Looking at it, says Herr Muthesius, one is reminded of Goethe's classically cold "Tasso," produced after his Italian journey, and which was so different from his earlier creative period when the first part of "Faust" came to light.

Mr. Ernest George comes next in the essay. He also is said to have respected the country-house motif, and he preferred the use of brick. What distinguished him from Mr. Norman Shaw is declared to be the introduction of a continental spirit derived from repeated journeys abroad as a student. The houses in Collingham Gardens and Harrington Gardens are referred to as instances of what can be done upon ground held under leases of ninety-nine years. Each house is a masterpiece, and presents special attractions without any loss to the general effect. The Collingham group might, it is said, be taken to be the select quarter of some Dutch or German town in which the single houses struggled for mastery. Besides the London works, there are also stately country-houses throughout England by Mr. Ernest George, in which the rooms and halls recall the examples in Nash's "Feudal Mansions."

Mr. T. E. Collcutt is credited with aiming at a fine pictorial or picturesque grouping of the parts of his buildings, and as a result agreeable silhouettes are secured. This is especially observable in his Imperial Institute. The remembrance of the affluence of Indian forms possibly produced an overabundance of ornament and a too small scale occasionally in the detail, but the building as a whole has an uncommon attractiveness, and there is complete harmony between the different parts. The Bank on Ludgate Hill is called the pearl of English terra-cotta work, and the only modern theatre in England that has significance was designed by his hand.

Although Mr. Waterhouse is mentioned as approaching his seventieth year, he is said to be in the full strength of his creative power, and he is still a Gothicist. Since he built his Law Courts and Town Hall at Manchester and Museum at South Kensington no architect has had more practice in large or medium-sized buildings. He is in the opinion of Herr Muthesius strongest in official buildings, and his art is more Continental than English. This is seen in the symmetry of his buildings, and he cares less for individuality than many of his contemporaries. As a specialist he stands in the foremost place for banks, clubs, business premises, schools and hospitals. The English terra-cotta industry owes more to him than to any other architect. Herr Muthesius considers there is a risk in England that the material may be used to excess, for it allows of the production of mechanical ornament, and on that account the Natural History Museum, St. Paul's School at Hammersmith, the Bank on Ludgate Hill and the Law Courts in Birmingham will always afford a means of contrast and condemnation. The last-named building, which is by Messrs. Aston Webb & Ingress Bell, is declared to be one of the most prominent of the newer English buildings. The visitor is said to be first struck by the refinement of the ornament, which is employed with the greatest technical skill. It recalls the richest Spanish Renaissance work, of which no examples were before seen in England. But the interior does not correspond with the exterior in character.

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* "Die Englische Baukunst der Gegenwart: Beispiele neuer Englischer Profanbauten, mit Grundrissen, Textabbildungen und erläuterndem Text." Von Hermann Muthesius, Königl. Regierungsbaumeister, zugeteilt der Kaiserl. Botschaft in London. Cosmos, Verlag für Kunst und Wissenschaft, Leipzig und Berlin.

Mr. T. G. Jackson is described as showing much activity in school and university buildings, and as one of the few English architects who have had an academic training. The new additions to the University of Oxford and of the High Schools to be used in preparation for the two Universities, have been designed by him. Unless Gothic prevails, he has a predilection for Elizabethan Renaissance. The Examination Schools in Oxford is, perhaps, his best-known creation. The inclination of Mr. E. W. Mountford towards Palladianism is mentioned, and it is evident that since 1890 he sought after the old ideal of symmetrical masses in a building. The Battersea Town Hall, the St. Olave's School are proofs of it, but the extent of the roof and the free painter-like disposition of the parts belong to a later time. His most interesting work is stated to be the Northampton Institute, in Clerkenwell, and it is considered by the German architect to be one of the most significant of the monumental buildings erected in England. Attention is drawn to another piece of modern Palladianism, viz. Mr. Belcher's Institute of Chartered Accountants. In it the roof is not seen. The abstract beauty of symmetrical architecture is compensated for by the utility and conformity to purpose which is seen in the façade. It is supposed by some observers that the building revealed the incoming of new ideas and that Queen Anne was dead. Herr Muthesius looks upon the Institute as much more than an incidental imitation of Palladian form, for it shows self-relying qualities, and thereby gains in impressiveness. The deep frieze by Mr. Thorneycroft adds to the effect, and altogether it has an impressiveness that could not be gained by any slavish imitation.

It is pointed out, however, that most of the young architects are in favour of an original Baroque treatment, especially in official and large buildings. Among the architects mentioned as disposed in that way are Mr. Beresford Hope and Mr. H. T. Hare, and as further indications of the present tendency towards Italian work, the designs for the new Government Offices, by Messrs. Brydon and Young, are contrasted with New Scotland Yard. Then there is another group which seeks to employ new forms, and which necessarily has to be more or less affected. As examples, Mr. Harrison Townsend's Library in Bishopsgate and his Whitechapel Art Galleries are mentioned. Mr. Voysey is its representative in dwelling-houses. Herr Muthesius traces the origin of the group to the late J. D. Sedding, whose follower, Mr. H. Wilson, is said to stand among the most original of modern English architects. Other English representatives named are Mr. Edgar Wood, of Manchester, Mr. Macintosh, of Glasgow, and Mr. Baillie Scott, of Douglas.

In Scotland Classicism reigned, especially in Edinburgh, for nearly a century; but in Glasgow there are many modern edifices which are peculiarly attractive. The author signalises Messrs. Blanc, Brown, Anderson, Mitchell & Wilson, Honeyman & Keppie, Burnet, Son & Campbell, and, among the younger men, Messrs. Miller, Lorimer and Salmon.

Herr Muthesius ends his discourse in the spirit of the extract from William Morris which preceded it. He lays stress on the importance of the dwelling-house as a factor in the national architecture. He gives the names of some men who appear most prominent in that class of work, which at least is racy of the soil. As he began with Morris he concludes with Goethe, who lays down that for a nation what alone is good is derived from its own spirit and drawn forth by general necessity, without aping any other country. All attempts to introduce foreign novelties are unwise, and cannot lead to success.

From what has been said it may appear that the review of Herr Muthesius contains only thoughts that are more or less familiar to Englishmen. That, however, should be its chief claim to attention. He has studied the subject of our architecture well, and has arrived at a judgment which corresponds with what is generally accepted among us. Foreign prejudices are set aside, and justice is rendered to English work. That was no easy task, especially for a Prussian official, since we know that the architecture in Berlin, as in other cities, does not show much respect for such freedom as is displayed in many examples of Queen Anne. The work of Herr Muthesius, when completed, must extend the reputation of English architecture in places where German influence predominates, and let us hope that his praise will bring many commissions to English offices.

MODERN ILLUSTRATION.

In the loan exhibition of modern illustration which is now open in one of the galleries of the Indian Museum at South Kensington there are over 1,600 drawings and prints, the work of about 350 British and foreign artists. Although many names which are familiarised to the public by means of illustrations are omitted from the catalogue, the collection will suggest the importance of so popular a class of art at the present time. The period which is exemplified is from 1860 to 1900, and the reasons given for the choice are that "the sixties" may be considered a time when extraordinary attention was given to illustration; and, secondly, reproduction of designs by the aid of photography may be said to have then superseded woodcutting. It is usually very difficult to fix a definite limit to any art which is progressive. Many visitors will think that a much earlier start would have been preferable in order to give a wider aspect of the development of illustration. It would, for instance, have been easy to show some recognition of the services of Charles Knight, the publisher, who was the pluckiest of the pioneers in advancing the art. With him were associated William Harvey, who was a pupil of Bewick's, John Thompson and other excellent engravers. It is characteristic of the spirit which still animates South Kensington and tries to make of the whole organisation a family enterprise, that while Charles Knight is ignored, the credit is given to Joseph Cundall and Sir Henry Cole of being the pioneers in the illustrations of books. We have no wish to undervalue either man. But the demand for views of objects and representations of scenes was anticipated by Knight in his Pictorial Bible, Shakespeare, the Arabian Nights, the two series of Penny Magazines, and many other works which were cheap and beautiful.

Following the order of the numbering the series begins with Leighton's drawings and proofs of the illustrations for "Romola" when the story appeared in the *Cornhill*. George Eliot does not, we believe, make any reference to them in her letters, but they are remarkable as the work of an artist who was in agreement with the Renaissance and who was well acquainted with Florence. His drawings were made on a grey paper with crayon touched up with white, and they were excellently interpreted by William Linton and John Swain. Leighton was not satisfied with preparing drawings of the size of the magazine pages; he also made careful studies on a large scale as if he were contemplating paintings. The style of his successor in the presidency, Sir John Millais, was better adapted to book illustration, and we see some of the drawings for Trollope's novels, the Parables, Tennyson's Poems, &c. The proofs obtain an increased interest from the observations which the artist wrote upon them, and which reveal his anxiety to have satisfactory results. Sir E. J. Poynter prepared drawings for a cheap illustrated Bible. They are more elaborate than those of his two predecessors, for the architectural backgrounds are introduced with a love of detail which is probably unique, and which anticipated what is seen in his later paintings. Other Academicians represented are Mr. G. F. Watts and Mr. Pickersgill. Sir John Gilbert, who designed more illustrations than any of his contemporaries is most inadequately displayed. What was remarkable about him was that in spite of his marvellous productiveness, by which he embellished penny publications, tracts, hand-bills of quack medicines, as well as books and newspapers, his style was uniform throughout. His treatment may not be approved, but it is remarkable that a man who did so much never sank below a general level. When wood-cutting was superseded by chemical action Gilbert adapted himself to the new conditions, and his latest blocks for process work are most effective, because he provided against the shortcomings imposed by the use of chemicals. Excellent painters are not always successful with drawings for illustration. The examples by Mr. Leslie and Mr. Marcus Stone are not remarkable. Mr. Fildes gained success as a draughtsman, which was of use to him as a painter. His best work is not seen in the exhibition, and it is surprising that a copy of his *Casuals*, which gained a name for him and helped to make the success of the *Graphic*, was not obtained. Mr. F. DICKSEE'S six drawings are beautiful, but almost too elaborate. MADOX BROWN'S pen drawings are characterised by his customary care, and the prints from them do justice to the originals. There are a couple of proofs, and we find that, like MILLAIS, he was eager to instruct the engraver at some length. FREDERICK WALKER'S designs for "Philip" must have humbled THACKERAY, and made him feel that his day as an "illuminator with his own candles" was at an end. *The Thanksgiving* corresponds with the fine water-colour, and it is evident WALKER was as happy with his drawings as with his pictures. He was carried off before his powers had reached full maturity, and the same fate befel some of his rivals, G. J. PINWELL, A. B. HOUGHTON, C. H. BENNETT, J. MAHONEY, and M. J. LAWLESS.

Until 1892 Sir JOHN TENNIEL drew his cartoons on the wood, and drawings, therefore, of his principal works are not obtainable. The few which are shown prove his masterly skill, and his sketches for "Through the Looking-Glass" are no less exact. There was a belief at one time that designers only gave an indication of the subject, and the detail was introduced by the engraver, who obtained no credit for his labour. A comparison of the proofs with the originals will convince any visitor that an engraver rarely added anything to the original sketch, and in modern process work cannot add. The pen drawings by GEORGE DU MAURIER are charming, and the slightest departure from them would be dangerous. Like WALKER, his young men and maidens have a beauty that might be inspired by Greek statues, but DU MAURIER through some fatality seemed to have used a gorilla for a model when drawing an ordinary middle-class Englishman. However, if women or children were introduced, they made compensation for masculine ugliness. CHARLES KEENE preferred to deal with the trading and humbler classes. For engraving or photography his drawings were admirable; every stroke told, and the certainty of his hand is shown in the *Evening Post*, in which THACKERAY'S top-coat seen in shadow is covered with long lines as regular as if they were put in with a ruler. The style of the three humourists is worth contrasting with that seen in the engravings after RICHARD DOYLE. It was his peculiarity that the incidents he drew were so apparent there was no need to have a long inscription or a part of a dialogue beneath them. His scenes would be amusing to a foreigner who was unable to translate a word of English. The *Bird's-Eye Views of Society* will hereafter have historical interest, for, although they are in very slight outline and make no pretence to exactness in the figures, they have more reality than ordinary photographs.

BIRKET FOSTER was another artist whose pencil spoke the tongue of every land, for his drawings have been reproduced in foreign books as if English landscapes were to be found all over the earth. Critics may be severe about his style as a painter, but it was well adapted to please townsfolk, and persuaded them to believe that country scenes are without any drawbacks. It is remarkable that among the hundreds of drawings representing the English school there are no landscapes except FOSTER'S. There are landscape backgrounds, and Mr. F. L. B. GRIGGS has some views of gardens decoratively arranged. But scenes that were common fifty years ago appear to have gone out of fashion. Whether this arises from the public now knowing too much about the inconveniencies of the country, or from a conviction that a landscape in black and white is an absurdity, or from any other cause, there is no denying the result. Nothing less than a strongly-marked etching or a costly photogravure appears to be acceptable.

SHAKESPEARE makes ULYSSES say, "The present eye praises the present object," and power to place before people reflections of objects which they are unable to see except by deputy was never before revealed so powerfully. A pictorial record is supposed to be necessary for whatever occurs after an interval of a very few hours. We are returning to the picture-writing of bygone races, and for much that is portrayed day after day description has become unnecessary. An immense number of drawings in the exhibition will recall pages in the illustrated papers and magazines which appeared a short time ago. They bring us up to recent incidents in the South African war. When we think of the difficulties under which they are produced, drawings like those by SPENCE, JOHNSON, PEARSE, MACPHERSON, WOLLEN, VILLIERS and others are remarkable, for they show a decision of hand and a skill in grouping which should lead to important works on canvas.

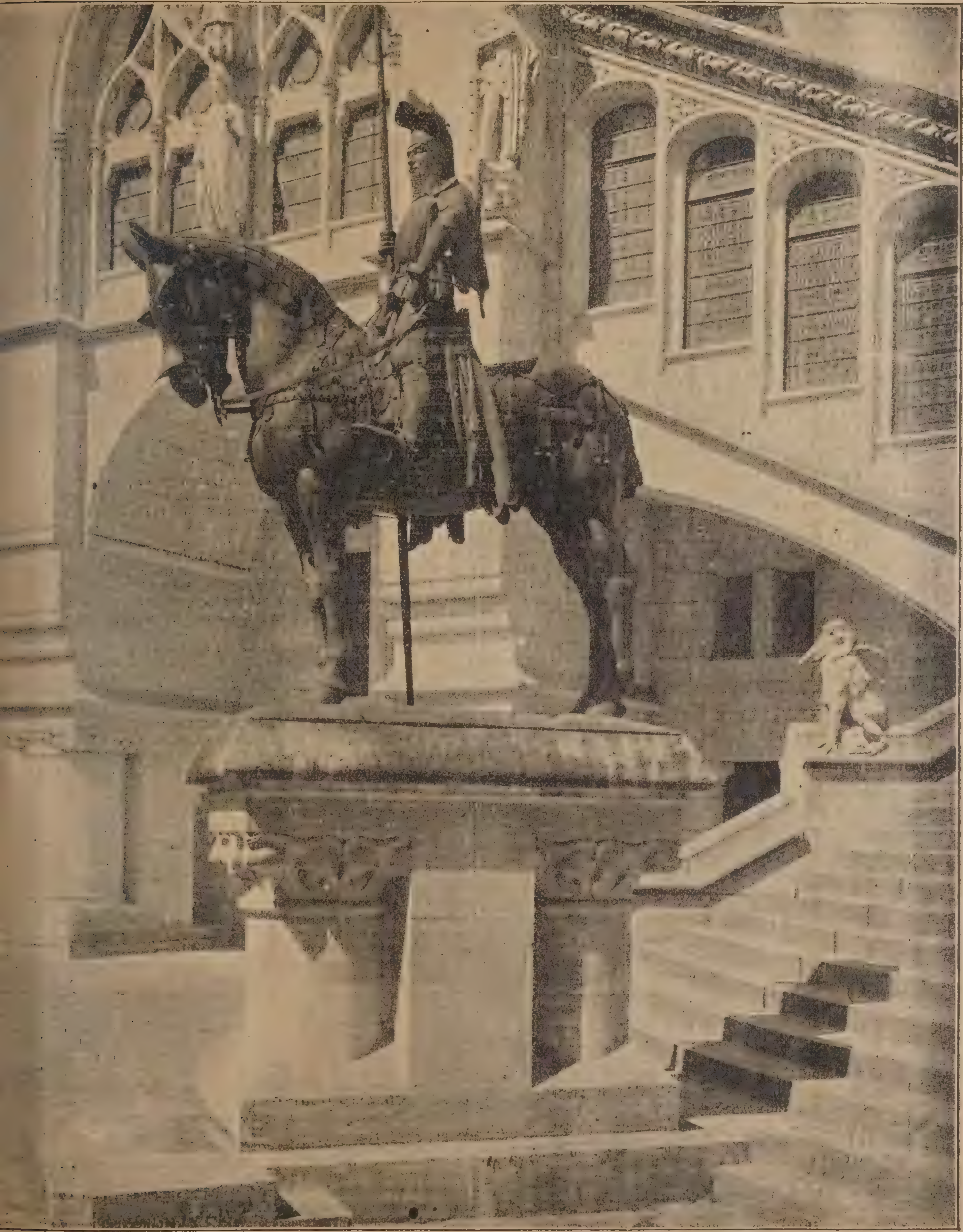
There is a new school of illustration for which more inventive power is required than served for drawings of incidents. Fine specimens are to be seen in Mr. BATTEN'S "Indian Fairy Tales," Mr. SEYMOUR'S Shakespearean compositions, Mr. HAUSMANN'S "Field of Clover," and several compositions by Mr. BRITTEN. In fact, at one end of the gallery there is a large number of most interesting examples which bear out the theory that an illustration for a book should be decorative rather than pictorial. It cannot be said that among the early work in the gallery there are any precedents for this new treatment. In architecture Mr. NEW'S drawings are samples. In them we have lines thick enough to have satisfied the late WILLIAM BURGES, while trees and flowers are shown no less emphatically. But when printed alongside of a page of type we see that the style is not inappropriate, and there is a harmony which is worth securing by the sacrifice of a little detail.

The proofs of the late RANDOLPH CALDECOTT'S drawings will revive interest in a class of work which was attractive, although it appeared to be easily produced. The dainty work of Miss KATE GREENAWAY still appears to be inimitable. Mr. WALTER CRANE is also represented. But examples of his picture-books of fairy tales which were produced some quarter of a century ago should have been introduced. They cost not more than a shilling each, and their influence must have been widespread. Among the architectural drawings are examples of Messrs. H. W. and H. C. BREWER, HERBERT RAILTON, GERALD HORSLEY, F. G. KITTON, &c.

The foreign drawings cannot be claimed to be superior to the English. Professor EUGÈNE BURNAND has two scenes in "A Pilgrimage in Provence" which are very elaborately worked. The Spanish incidents are all in colour. Among the French artists who have exhibited may be mentioned MM. FLAMENG, WAGREZ, A. MOREAU, VIERGE, FROMENT, WILLETTE and LOUIS MORIN. The specimens of German humour are not exhilarating, and we prefer the drawings sent by Denmark to them. The United States collection is not sufficiently comprehensive to uphold the fame of the school. The most attractive are the proofs from the wood-engravings by Mr. TIMOTHY COLE; they appear to be hand-cut throughout, and although on a small scale, show a tenderness and reverence that are rare in these days. In one of the cases are some Russian books from the Imperial press, which, judging by the open pages, are creditable to designers, engravers and printers. Taken as a whole, the exhibition is worth more than a single visit, and young artists who are ambitious to distinguish themselves as aids to literature can derive many hints from a comparison of the designs.

THE FOUNDER OF PIERREFONDS.

THE position of Pierrefonds was of so much importance from its proximity to Paris, that rocky site was occupied by a fortification from an early period. Whoever possessed it was able to exercise authority not only over the villages along the Oise, but even in Paris. There were, in fact, two castles at Pierrefonds, viz. one on a height known as La Ferme du Rocher, of which there are no remains, and the second and infinitely more important building which was restored at the cost of NAPOLEON III., under the direction of VIOLLET-LE DUC. The latter structure was founded by LOUIS DE FRANCE, Duc d'Orléans, Comte de Valois, d'Asti, de Blois, &c. He was the second son of King CHARLES V., called Le Sage, and was born on March 13, 1371. His father died in 1380, and was succeeded by his eldest son, CHARLES VI., who was then a child of twelve. The young king could not escape the control of his uncles, who were not only tyrants but most rapacious. They seized about a third of France between them. The people were harassed by exactions and a terrible *jacquerie* arose.



LOUIS, DUKE OF ORLÉANS.

(From the Statue at Pierrefonds.) *E. Viollet-le-Duc, Architect.* *Emmanuel Fremiet, Sculptor.*

The Duc d'Orléans had therefore evil precedents to follow when he became old enough to exercise authority. In 1392 Charles VI. became a lunatic, and the princes of his family were able to do as they pleased. Jealousy between the Duc de Bourgogne, one of the king's uncles, and the Duc d'Orléans only appeared to increase the misery of the people. Louis maintained he was entitled to act as Regent, and in order to give some security to the projects he formed he became a great castle builder, for Pierrefonds was only one of his works. In that respect he was acting like other powerful nobles. On this subject Viollet-le-Duc has some interesting remarks :—

> If, he says, during the fourteenth and fifteenth centuries the ecclesiastical constructions modified but little the methods applied to the art of building by the architects of the thirteenth century, it is not the same with civic constructions. These take on a freer manner ; the processes are more elaborate, the methods more varied ; the architects show proof of that independence of which they show the lack in the religious monuments. This is in reality because the current of life turned away from religious architecture, and bent all its energy to civil constructions. Under the reign of Charles V. and Charles VI. there is a rapid development of architecture applied to public edifices, to castles and to mansions. No difficulty daunts the constructor, and he succeeds by carrying further the principles admitted by his predecessors, in executing constructions the most daring and the most skilful, from the double point of view of solidity and art. At that epoch a few seigneurs knew how to give an extraordinary impulse to constructions ; they loved them as they should be loved, leaving to the artist perfect freedom, both in regard to the methods of execution and the character which fitted each structure. The Duc de Burgundy and the Duc Louis d'Orléans, the brother of Charles VI., caused to be raised residences, half-fortress, half-palace, which indicate in the artists charged with these works a rare experience and knowledge and perfect taste, and in the seigneurs who ordered these works a wise and intelligent liberality which has hardly been since that time—a peculiarity of persons sufficiently rich and powerful to undertake great works If Louis, Duc d'Orléans, was a great spendthrift of public funds, and if he abused the state of madness into which the king, his brother, had fallen, it must be admitted that in the capacity of a wealthy seigneur he built like a man of taste. It was he who rebuilt almost entirely the château of Coucy, who built those of Pierrefonds and Ferté-Milon, and greatly enlarged those of Crépy and Béthisy. All the buildings undertaken by order of this prince are of rare finish and rare beauty. There will be found in them what are so difficult to unite in one and the same building—perfect solidity, strength, elegance, and that tasteful splendour which leaves nothing to caprice.

But the Duc's love of building was no safeguard for him. On the death of the Duc de Bourgogne in 1401, Louis of Orleans, as brother of the king and as the confidant of the Queen Isabeau of Bavaria, was the chief power in the State. His cousin, Jean sans Peur, who was ambitious to hold that position, became at once his rival, and it seemed as if Paris was to be the battle-field between the mercenaries of the two princes. The old Duc de Berri endeavoured to reconcile his nephews. Peace between them was sworn on November 20, 1407, and three days afterwards Louis was assassinated. Jean sans Peur made no secret of his share in the murder, but he considered it was prudent to retire for a time to his possessions in Flanders. Having gained a victory at Hasbain, in which 25,000 Liegois were slain, he was not afraid to return to Paris, where he won the favour of the people by promising a reduction of taxes. The nobles were, however, against him, and the civil war between the Burgundians and Armagnacs broke out. The English invaded France, and in the course of the war Pierrefonds was delivered to them.

For a long time the fortress might be said to have borne a part in the wars to which France was subjected. It was restored in 1588 by Louis XII., but was seized by the Leaguers. Then brigands occupied it under Rieux. Henri IV. endeavoured to gain possession of the fortress, but on two occasions his army failed to make an entry through the massive walls. During the contest Rieux nearly succeeded in carrying off the king from Compiègne. In the reign of Louis XIII. another siege was ordered by Richelieu. With improved cannon one of the towers was overthrown and Pierrefonds was surrendered. The other parts of the building were uninjured and would have stood for ages, but the Cardinal realised the danger of having so strong a fortress near Paris, and ordered its demolition. Owing to the thickness of the walls the operation was found to be tedious, and eventually the destruction was confined to the roofs and to parts of the walls. But the people of the district were less merciful than Richelieu's agents, and like many another fine building, Pierrefonds supplied cut stone for all who were strong enough to remove it. The ruins were at length so little valued as a quarry that in 1801 they were sold for 8,100 francs, and in 1813, as there was less stone, Napoleon was able to purchase Pierrefonds for 4,800 francs. Having so little for basis, Viollet-le-Duc could hardly help utilising his imagination in the restoration.

It was fitting to have a memorial of the founder at the entrance of the château. The architect may have supposed the figure of Napoleon III. would at a future time have appeared as a companion to the Duc d'Orléans. M. Frémiet, the sculptor, was not afraid of the difficulties which attend on the representation of ancient armour. We have already published a print from his statue of *St. George*, and it will be seen that at Pierrefonds he endeavoured to reproduce the kind of armour in fer-battu which was introduced during the reign of the Duke's father. M. Frémiet was a pupil of Rude, the great sculptor of the *Departure of the Volontaries* which is seen on the triumphal arch in Paris, and his *Jeanne d'Arc* in the Place des Pyramides is no less a national work.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

The usual monthly meeting of this Society was held in their library at the Museum, Queen Street, on Monday, Dr. David Murray, vice-president, in the chair. Before proceeding to the business of the evening, Mr. J. H. Cunningham, secretary, announced that since the last meeting the Society had received two very handsome gifts to enable them to carry on the systematic excavation of Roman sites in which they had been engaged, and probably to extend their researches to other classes of antiquities, Sir Herbert Maxwell, the president of the Society, having given 50*l.* for the excavation of the camp at Rispane, in Galloway, and the Hon. John Abercromby, a former vice-president, and now one of the foreign secretaries, having given a donation of 100*l.* for excavations. These gifts were particularly opportune, as the Society's funds were not in a condition to enable them to continue these operations so freely as formerly. In the first paper Mr. J. Romilly Allen gave a general description of the early Christian monuments in Iona, with some suggestions for their better preservation. The sculptured monuments on the island were roughly divisible into two groups, one of which had Celtic ornament of date prior to the twelfth century, and the other was distinguished by a style of foliageous ornamentation of a later period. Those of the earlier period were again divisible into recumbent slabs, with crosses incised or in relief, without ornament, but sometimes with inscriptions in the old Irish character; recumbent slabs with crosses decorated with Celtic ornamentation, and erect free-standing crosses with Celtic ornament. Among the cross slabs might be classed the very interesting oval granite boulder found at Cladh-an-diseart, which bore a Celtic cross, and was supposed to have been the stone mentioned by Adamnan as the saints' pillow-stone, which was placed over his grave. Of the four cross slabs with inscriptions in Irish minuscules, one had been removed by the late Duke of Argyll to Inveraray for preservation, but should now be restored to its place. The others were lying within the small enclosure at the south-west corner of the cloisters, and the inscriptions were obliterated by weathering. Two of the slabs with ornamental crosses were at St. Oran's chapel and the nunnery, and fragments of two others at the cathedral. Of the erect crosses the only one remaining entire was the well-known cross called St. Martin's, and the lower portions of other two were still in their original positions, but there were other eight fragments which seemed to have formed parts of other two crosses, one of which, a most beautiful monument, must have measured 7 feet across the arms, and was evidently similar in shape and style of decoration to the cross of Kildalton, in Islay. These two crosses, indicated by separate fragments, had not been previously described. The sculptured stones of the post-Norman period at Iona were far more numerous, and consisted of recumbent slabs with scrolls of foliage of the general West Highland type, galleys, swords and other emblematic devices ; effigies of ecclesiastics and of knights or chiefs in military costume, and erect, free-standing crosses exhibiting the same foliageous ornamentation as was common to the crosses and slabs of the West Highlands generally, ranging in date from the twelfth or thirteenth centuries to the Reformation. Perhaps the most interesting of the figure subjects on the slabs at Iona was one which represented a priest celebrating before an altar on which stands a chalice and a cross of the Celtic form. The best examples of the dated effigies were those of Abbot Mackinnon, A.D. 1500, and Anna, prioress of Iona, A.D. 1543. Of erect, free-standing crosses of the post-Norman period there were only two at Iona, namely, the so-called MacLean's cross, still standing entire, and the shaft of the cross of Lachlan Mackinnon and his son John, Abbot of Ty, erected in 1489, and now lying in St. Oran's chapel. This was the same Abbot Mackinnon who died in 1500, and whose sepulchral effigy near the altar of the cathedral had been already referred to. In making suggestions for the preservation of the uniquely important and interesting series of monuments on the island, Mr. Allen considered it inadvisable to interfere with those still occupying their original positions, but recommended that all others should be placed under cover from the weather, arranged chronologically, and each numbered and described for reference. If possible an illustrated catalogue of the whole series might be published, as Sir John Stirling Maxwell had done with the group of monuments at Govan. At the conclusion of the paper the satisfactory announcement was made that a copy of Mr. Allen's report and recommendations having been sent to the agent for the trustees, he took it with him to Iona, and went over it with the superintendent on the spot, with the result that most, if not all, of the matters referred to were being attended to, or kept in view to be attended to when the trustees have funds for the purpose. In the second paper Mr. Robert Brydale gave a description, with drawings, of an incised sepulchral slab at Ardchattan, with a Gaelic inscription commemorating John MacDougal, son of Black John, which probably belonged to the fourteenth century. He also described other three slabs, one with foliageous ornament only, another with a sword, a group of animals and foliage, and a third with a claymore and axe in the graveyard at Taynuilt. In the third paper the Rev Reginald A. Gatty described a series of very minute flint implements of special types which he had collected at Scunthorpe, Lincolnshire, and various other places, and which had been found also over an area so wide as to include Belgium, France, Spain, Italy and India. The most marked varieties of these very minute and highly specialised tools were shaped like an obtuse-angled triangle, worked sometimes on one and sometimes on both sides of the obtuse angle; others were crescentic in shape and worked along the back of the crescent, while a third variety was trapezoidal, and worked along one or both ends. A large selection from Mr Gatty's collection and from the specimens in the museum was exhibited in illustration of the paper. The smallest specimens did not exceed three-eighths to a quarter of an inch in length, and were so minutely worked as to require a magnifying-glass to make the character of the working visible. Various theories had been started as to their use, some supposing them to be tattooing or surgical implements, and others that they were intended to be mounted between slips of wood or bone, like some of the implements from Sweden and Egypt, while others supposed them to have a racial significance, indicative of a pigmy people, of whom, however, there was no other evidence.

THE AMERICAN INSTITUTE OF ARCHITECTS.

THE convention of the American Institute of Architects in Washington was, according to the *Engineering Record*, a noteworthy one, worthy of the Institute's position as one of the great national professional organisations. The centennial celebration of the occupation of Washington as the seat of federal government was held the day before the convention opened, many members being present to witness the festivities of that occasion, and the most generally interesting features of the Institute's meetings related to the grouping, design and ornamentation of the buildings of the city.

At the first session, on the morning of December 13, District Commissioner Macfarland welcomed the Institute in a brief speech, expressing a hope that its proceedings would be extended so as to include suggestions which would assist the authorities in charge of the public works of Washington. President Robert S. Peabody then read his presidential address, in which stress was laid on the national character of the Society, and the importance of conducting its affairs and framing its recommendations on the broad lines of a truly American institute, as distinct from a local organisation. At the close of the address the reports of various committees were presented, among which that on the results of a conference with the American Society of Heating and Ventilating Engineers is of particular interest as relating to a subject mentioned a number of times in these columns. This report was submitted by Messrs. A. J. Boyden, Walter Cook and James E. Hill, the Society's representatives at the conference being Messrs. S. A. Jellett, R. C. Carpenter and Henry Adams. The report was adopted, and the board of directors authorised to fix the proper fee for engineering problems of the nature covered by the report, which reads as follows:—

"Your committee reports that in conference with a committee appointed by the American Society of Heating and Ventilating Engineers, and in consultation with sanitary, electrical, mechanical and other experts, and with architects representing all sections of the country and all classes of practitioners, there has been practical unanimity of opinion on the following points:—(1) That in the design, construction and equipment of modern buildings the problems of sanitary, electrical and mechanical engineering, of heating and ventilation, of structural work and foundations, are much more complicated and their solution much more expensive than was the case when the present schedule of charges of the Institute was first adopted, at which time, to use words taken from a recent convention report, 'the erection of a building could safely be left to a competent carpenter's foreman or to a master mason,' and that this development has in many cases rendered necessary the employment of experts, either permanently on the staff of the architect or by engagement for a specific work. (2) That the amount of labour and expense required from an architect now, even when the best of experts are engaged, and independent of their fee, is greater than was contemplated when the present schedule was adopted, but is necessary for the moulding of these parts into complete harmony with the architect's design in all classes of work. (3) That the usual charge for efficient expert service is 5 per cent. of the cost of the special work involved where this amounts to 10,000 dols., with a gradual increasing of the percentage as the amount diminishes from 10,000 dols. down to 2,000 dols. (4) That the expense of expert service should be paid by the client as a necessary part of the cost of the work. (5) That the architect should select the engineer or expert, whose work should be subordinate to that of the architect, and should be done under his direction, in hearty co-operation with him. (6) That the architect should assume all expense for expert services necessary for the proper execution of a work, and that the schedule fee for heating and ventilation, sanitary, electrical and mechanical work should be 10 per cent. on the cost of these parts.

"We therefore recommend that the schedule of charges of the Institute be so amended that the minimum charge for professional services in connection with electrical, mechanical and sanitary engineering, heating and ventilating shall be 10 per cent. on the cost of these portions of the work, the architect to select or approve any experts required and to assume all expense for their services, whether rendered by members of his personal staff or engaged for a specific work."

At one of the sessions during the first day Messrs. W. S. Eames and William A. Boring introduced resolutions which, after discussion in committees and by the Institute, were adopted in a modified form. The first of these was to the effect that no alteration to the present White House should be authorised until plans had been prepared after much careful study by a man eminent in the profession; to aid in the selection of such a man the directors were authorised to offer their services, and a committee consisting of Messrs. W. S. Eames, George B. Post and J. W. Yost was appointed to present these recommendations to Congress.

The second resolution urged on Congress the importance of procuring through a commission created for the purpose the best obtainable general design for the location and grouping of public buildings and the planning of works of landscape architecture. A committee of eight was authorised to draft a Bill providing for such a commission.

In addition to passing these resolutions, a number of papers on architectural and allied work in Washington were presented, all of which, it was announced, would be printed as a Senate document. They were as follows:—"The Grouping of Government Buildings, Landscape and Statuary in Washington," by Mr. Joseph C. Hornblower; "The Grouping of Public Buildings in a Great City," by Mr. C. Howard Walker; "Monumental Grouping of Government Buildings in Washington," by Mr. Edgar V. Seeler; "Sculpture in Washington," by Mr. H. K. Bush-Brown; "Landscape in Connection with Public Buildings in Washington," by Mr. Frederick Law Olmsted, jun. The other papers presented at the convention related to gardens, the only exception being Mr. Cook's review of recent American architectural design.

The election of officers resulted as follows:—President, Robert Peabody; vice-presidents, W. S. Eames and Frank Miles Day; secretary and treasurer, Glenn Brown; directors, John Carrère, James McLaughlin and R. C. Sturgis.

The Society for the Encouragement of the Fine Arts have elected Lord Saye and Sele president in place of the late Lord Lathom.

NOTES AND COMMENTS.

It is generally believed that the first settlement of the people who fled from the frontiers of Belgium towards the Seine was in the island known as the l'Ile de la Cité, on which the cathedral of Notre-Dame, the Hôtel Dieu, the Palais de Justice and other buildings now stand. Quinet imagined that the choice was determined by Merlin, the British enchanter. The history of the island is therefore of unusual interest. In order to signalise a place which is so important to Parisians, it was proposed a few years ago to have a sculptured representation of the vessel which figures in the arms of Paris erected on the island. The sculptor M. Alphonse Moncel made a model which received approval. But as he was not altogether satisfied with his first work he has completed a second one. The principal alteration will be in the character of the figure seen standing on the prow. At first it was proposed to have a winged figure that would be symbolical of civilisation, but now a figure about 50 feet in height will be substituted, which will be a type of Paris itself.

The last report of the American Institute of Architects differs from the majority of documents of the same class. Complaints were made about the conduct of a few of the members, who are architects of standing, for having acted irregularly in connection with the competition for the Harrisburg Capitol. The report does not scruple to name the offenders and censure their conduct, on the ground that it is prejudicial to the best interests of the profession. At one time it was accepted as a maxim that all was fair in competitions as in war. The wearing of English uniforms by Boer troops is not tolerated in the Transvaal, so that irregular warfare is not allowed full license. The preparation of a new set of regulations for competitions by the Royal Institute of British Architects also shows that among us the tactics which at one time were pretty generally adopted have had their day. The announcement in a professional report of the names and acts of those who have merited censure for departing from rules is likely to prevent a repetition of the offence. But that mode of correction would not be approved by English law courts.

The long account by Mr. Rushforth, which was published last week, is almost sufficient to indicate the advantages which arise from having a British School in Rome, with officers who are competent to deal with archæological problems. But the school is only in a state of early infancy, and it can hardly be said as yet to have a local habitation. Mr. Rushforth, the director, is in treaty for rooms in the Odescalchi Palace, which would serve for the present, but the financial difficulty is not yet overcome. An income of at least 1,000*l.* a year is necessary if the school is to perform the work assigned, and to become a centre for British students in Rome. That sum would appear ridiculous to those in charge of other national schools in Rome. Out of the money nearly 500*l.* will have to be expended on the salary of the director, rent, taxes and service. The total sum collected up to the present is about 850*l.*, of which a little over 200*l.* consists of annual subscriptions. The committee earnestly appeal to all who love Rome and Italy to assist them in making the British School worthy to take its place by the side of those of Germany, France and America. Subscriptions and donations may be paid to the account of the British School at Rome at the London and Westminster Bank, Lothbury, E.C.

Scottish towns are not to have the sole credit of the revival of market crosses. The Worcestershire Architectural and Archæological Society lately proposed to restore as many old village crosses in the county as subscriptions for the purpose would allow. In Hanley-Castle there used be three crosses, viz. one on the common, another in the churchyard, and the third in the village. One cross was placed in position last week. The base alone is ancient, and has stood on the main road near Quay Lane. Upon it a cross has been erected, and handed over to the custody of the Parish Council.

The report of the supervising architect of the Treasury Department of the United States describes the results of the new system of procuring designs for public buildings through competition among architects as being extremely satisfactory, both artistically and practically. It appears, however, that the direction and supervision of the actual work of construction do not go on so well under private architects as under the old system. He therefore thinks that, while the present method of obtaining designs in competition should be continued, it might be well to limit the work of the successful competitor to the furnishing of drawings and specifications, leaving the actual execution to be carried out by the Department. An opinion of this kind from so competent a person as Mr. Taylor, says the *American Architect*, will undoubtedly receive, both from the profession and the Government, the serious consideration that it deserves. That private architects are likely to find themselves unpleasantly hampered by the formalities and restrictions necessarily connected with Government work is probably true; and it is also likely to be true that the Government officials, accustomed to have the exercise of their discretion strictly limited by law, find an unwarrantable license in the habits of unofficial architects; but it should not be forgotten that an important consideration in the change by which private architects were admitted to employment on public work was the fact that public buildings, under the old system, have cost, as a rule, at least twice as much as they would have cost if built by private architects for private clients.

The enormous expense of obtaining a private Bill in Parliament was suggested by a paper which was read before the Statistical and Social Inquiry Society of Ireland by Mr. C. A. Stannell on Tuesday. It is generally admitted that the Parliamentary inquiry in 1899 concerning the proposed amalgamation of the Dublin townships with the city cost at least 25,000*l.*, and that the equally abortive inquiry into the amalgamation of the Southern Railways cost the supporters and opponents 30,000*l.* Both these measures were introduced for a second time last year, and all the expenses had to be incurred over again. A Dublin solicitor states that during the last ten years the amount paid by his own clients in connection with the promotion of or opposition to Bills connected with Irish matters has amounted to 39,929*l.*, in round numbers 40,000*l.*, an average of 4,000*l.* a year. During the period between 1892 and 1898 the urban authorities promoted in all thirty-one Bills, and their united expenses came to 51,362*l.* 0*s.* 1*d.*, being on an average 1,656*l.* each. It will be necessary, in order to give an estimate of the expenses of a Bill, to fix some of the features of it. Say that the capital involved is 200,000*l.*, that ten witnesses are examined, and that the case takes five days in committee in each House. On these data the expenses in the House of Commons would very roughly be 145*l.* and in the House of Lords 177*l.* The fees paid to counsel vary from 1,000*l.* down to 100*l.* for Queen's Counsel. One hundred pounds is not a large fee on a Bill of any importance, and would not secure the attendance of a leader. In regard to refreshers for second and following days, 10*l.* 10*s.* would be an ordinary refresher for a Q.C. It might be 50 guineas. Then there are the expenses of solicitor and agent, printing and shorthand writer, and witnesses. Totalling them up they amount to :—House fees on an opposed Bill 350*l.*, counsel 400*l.*, solicitor and agent 600*l.*, printing and shorthand writer 100*l.*, witnesses 500*l.*; total 1,950*l.* As already said, these estimates are really minima. In other words, the minimum expenses involved in obtaining an Act of Parliament, if there be any opposition, can hardly be placed at a lower figure than 2,000*l.*, while in the case of such Bills as the Dublin Corporation or the Southern Railways Amalgamation it may exceed 25,000*l.* With wealthy English corporations, railway companies, gas and water companies such large sums can easily be met, but in Ireland the expenses become almost prohibitive and call for a reform.

ILLUSTRATIONS.

THE LONDON COUNTY COUNCIL HOLBORN AND STRAND IMPROVEMENT.—DESIGN No. 27.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

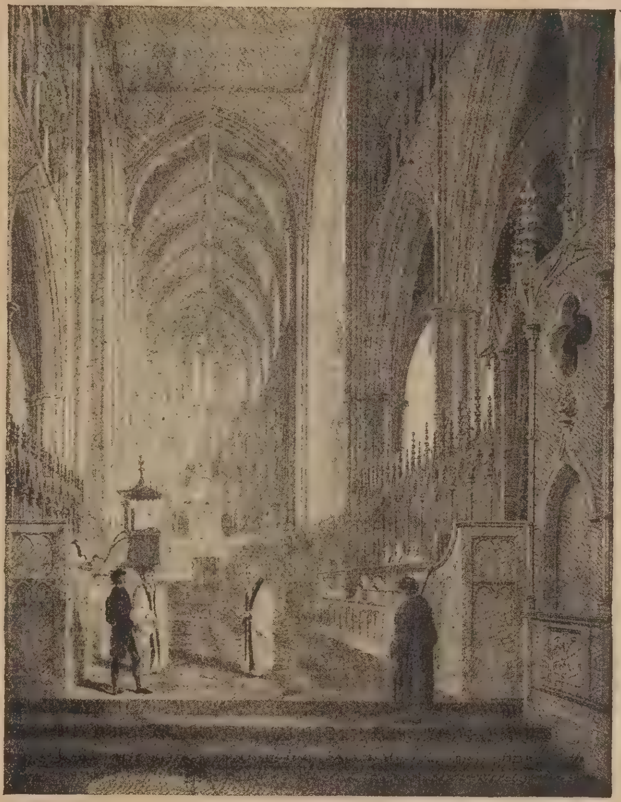
Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

(Continued from page 15.)

The Works of Ward & Nixon—(continued).

REVERTING to 1844, we find among a large number of windows executed, or in hand, by Ward & Nixon—many of them humble, it is true, but interesting as forming links in the chain of our history—that at the east end of the choir of Chichester Cathedral. The glass in this window—a triplet of Transitional character—was the outcome of a public subscription, and one of the ameliorations which Dean Chandler, under the direction of Richard Carpenter,* lived to see carried out in the choir of that church which both dignitary and architect loved so well. The three subjects in the central lancet of this window, chosen with reference to the cathedral's dedication to the Holy and Undivided Trinity, are Moses and the Burning Bush, the Baptism of Our Lord, and the Descent of the Holy Ghost on the day of Pentecost. In the side lights are the Resurrection and the Ascension, with above and below the Evangelistic Symbols. Throughout this window the medallion treatment was adopted, but the effect of old work was by no means so successfully caught as in the artists' almost contemporary window in St. Giles, Camberwell. The late Cardinal Manning, when Archdeacon of Chichester, had, it is said, a peculiar aversion to this window.

Westminster Abbey. The Choir looking West.
(*From a Woodcut of* 1848.)



Choir of Westminster Abbey, looking East, about 1820.
(*From Neale.*)

Several London churches received stained glass about this time (1845–50) from Ward & Nixon's ateliers. One of these was the large parish church of St. John of Jerusalem, at South Hackney. This church, which in spite of many defects must be considered one of the noblest first-fruits of the Movement and a splendid example of untiring energy and perseverance on the part of a worthy priest—one of a school of churchmen that has long since passed away, and who survived its completion but a short time—has already been described in these papers. Ward & Nixon's share in its vitreous decoration may be seen in the row of two-light clerestory windows, with their graceful inner plane of tracery copied from Stone Church, near Dartford, on the south side, and where we find portrayed within vesica-shaped medallions on a cold white ground, naturalistically-treated groups from Our Lord's life. The same non-hieratic style was, curiously enough, employed by these artists in four small groups from the Life of St. John Baptist in the east window of a neighbouring and contemporaneously-erected Roman Catholic church dedicated to that saint on what is called the Triangle in Mare Street, Hackney. This graceful little Flowing Decorated structure, to which a south aisle has been recently added, was built from the designs of Wardell, an architect of the Puginesque school who has lately passed away.* Externally it is somewhat spoilt by its belfry, which, although effectively corbelled out above the western window—after the fashion of a Wiltshire example—is too large for a bell-cote and too small for a spire, being, in fact, a spire *manqué*; but inside, this church at Hackney is for its size one of the prettiest belonging to the Roman body in London, and with its rood-surmounted screen and painted windows, reminds us of one of those less ambitious works of Pugin that figure in his two articles on the state of Gothic architecture in England, collected from the "Dublin Review."

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* Whether this glass in the east window of Chichester Cathedral was overlooked by Carpenter the writer is not prepared to say; but during the latter part of his career that architect paid great attention to this branch of ecclesiology. With regard to colour, Carpenter was safer and more equable than Pugin, and whenever it was possible he superintended the glass destined for windows in churches of his own designing, Messrs. Ward & Nixon executing the mechanical part, while the cartoons were drawn by Mr. Clayton, whom he (Carpenter) had trained. Thus an alliance was established on a footing somewhat similar to that between Pugin and Hardman, and the success of the enterprise may be attested by those who remember the glass which until comparatively recently existed in St. Nicholas, Brighton. At St. Mary, Beddington, and Algarkirk, near Boston, the writer believes that some work, the joint production of Ward & Nixon and Carpenter, may still be seen. The friendship existing between Carpenter and Pugin has already been alluded to in these papers.

* To him we owe such graceful churches as Holy Trinity, Brook Green; Our Lady of Victories at Clapham, St. Mary, Star of the Sea near Greenwich Park, and SS. Mary and Michael, Commercial Road, all good productions of the "imitative" phase of the Revival.

The adjacent parish of Homerton has a very pretty Flowing Decorated church dedicated to St. Barnabas. The work of Mr. Ashpitel, it was finished in 1847, but is frequently taken by the uninitiated for a veritable Mediæval building. Here the five-light east window contains Ward & Nixon's glass, comprising ten small groups with blue backgrounds, but rendered effective by the manner in which the two tiers of five subjects are separated by a band of grisaille work. The carving of the capitals to the circular columns supporting the nave arcade in St. Barnabas, Homerton, is remarkably good, while outside the embattled tower, with its beacon turret, combines with the separately gabled aisles to form a very effective group.

About the same time (1847-48) stained glass was put by Ward & Nixon, in the same naturalistic style and after cartoons by Overbeck, into the transeptal windows of Christ Church, Highbury—a poor structure finished in 1848 from the designs of Thos. Allom, one of the finest architectural draughtsmen of his day,* but whose forte was certainly not the designing of churches or their ecclesiological arrangement. From Mr. Butterfield's pencil is the figure of Our Lord seated between St. Peter and St. Paul in the window which, with its round-headed centre and quadrilateral wings, closes the east end of St. Paul's, Shadwell—a specimen of late Georgian classicality in which that architect had, about 1847, been called upon to effect some simple ritual ameliorations.

THE IRVINGITE CHURCH, GORDON SQUARE. (*Raphael Brandon, Architect*, 1850-54.)

Finished in 1822, a year after the death of its architect Hollis—to whom was likewise due the neighbouring church of Poplar—St. Paul's, Shadwell, replaces a quaint seventeenth-century structure, some of whose features have been reproduced in a Roman Catholic church built not many years since from the designs of Mr. Tasker, in Wapping. The tower and spire of Shadwell Church are well proportioned, the latter being really graceful; but the structure itself is only redeemed from utter hideousness externally by this feature, while the interior, which is no better than those of Bedford's churches built almost contemporaneously in the transpontine districts, has, beyond Ward & Nixon's stained glass above the altar, not a single item of architectural interest to command attention.

The colouration of the glass in this east window at Shadwell is pleasing, but unfortunately Our Lord's throne was not made sufficiently prominent, neither was due elevation given to the figure, which has consequently the effect of a standing one of stunted proportions—a result inevitable perhaps from a too close adherence to the Byzantine type. The accessories, however, are good, the figures being relieved by a dossal of dark red, while above, harmonising with the Italianising style of the framework, arches and a background of blue sky are introduced.

A large and important work entrusted about this time to Ward & Nixon was the southern transeptal rose and series of foliated lancets beneath it at Westminster Abbey, whose choir, which had been miserably fitted up during the reign of George III. by Keene, the surveyor to the fabric, underwent a complete remodelling from the designs of Blore between 1846 and 1848.*

Some of the tinctures in these windows of Ward & Nixon's at the Abbey are rich and fine, but the fatal mistake made by the artists was their attempting to reproduce, in spaces peculiarly adapted to solitary figure or mosaic work, groups which a Raphael could only distribute over a broad expanse. Princely patronage availed little in the carrying out of these windows. The effigies, conceived in the German *heilige* style at that time so fashionable, seem squeezed up in the narrow lancets into a ghastly and preternatural elongation, giving precisely that general effect obtained by one's face when viewed in a spoon longways.

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* *Vide* his illustrations to such works as Beattie's "Scotland," Wright's "France," "Cumberland and Westmoreland," "Durham and Northumberland," "Devon and Cornwall," &c., so popular half a century ago as "drawing-room table" books.

* The choir of Westminster, as we now see it, was reopened Easter Eve 1848. The general effect of Blore's stall-work, seen from the steps leading to the sanctuary, is good, but would have been far better had that architect imitated wood instead of stonework. From an ecclesiological point of view it is a thousand pities that the old cathedral arrangement should have been so pertinaciously adhered to. Advice pointed to the removal of the organ screen and the utilisation of the nave for the daily offices, for, under the present arrangements the congregation in the Abbey is split up into three distinct portions. Two years after Blore's rearrangement of the choir Sir Gilbert Scott was appointed architect, and there can be little doubt that had the work been postponed until that period we should have had in Westminster choir a second edition of Ely. Until 1848 the woodwork in the choir, as may be seen by the plates in Neale's "Westminster," published in 1818, crossed the transepts. Blore replaced this by nothing, but under Sub-Dean Lord John Thynne's administration—when Dean Buckland was incapacitated—Scott was commissioned to erect those brazen screens and gates which, on the eve of the consecration of a bishop not many years ago, were removed and have never been replaced. Clayton & Bell's glass in the northern transeptal lancets, their series of gigantic prophets in the south clerestory, and the quiet, unobtrusive choir-pulpit are all works carried out under Scott's direction between 1855 and 1860.

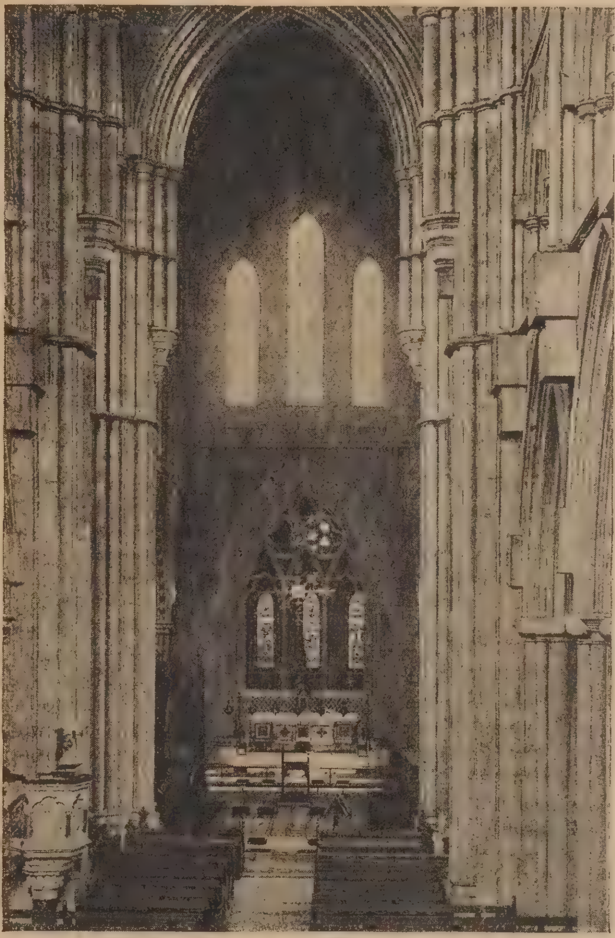
When a brilliant sun is shining behind it the superabundance of red, and of that colour to which one can only apply the sobriquet of "parroquet," is most distressing, while as for the great rose the writer once heard it, and by no means inaptly, termed a perfect wheel of torture, a martyrdom of saints.

Never in the whole history of stained glass in England since the Revival, except perhaps in the western windows of Gloucester and Norwich cathedrals, has so glorious a field for the vitreous art been so recklessly thrown away; nowhere perhaps in all England can so gigantic a failure be witnessed, and all from the simple fact that the work was not supervised by the eye of an ecclesiologist. The man who but a very few years previously had covered the eastern districts of the Metropolis with such Gothic burlesques as St. James's, Curtain Road, Christ Church, Hoxton, and St. Peter's, Stepney, was one of the finest architectural draughtsmen the century has seen, but totally unfitted for the post of guardian to this noblest of European churches.

The writer is very much afraid that while this frightful stained glass, which there is every reason to believe will ere long be removed, is hugely admired by the general run of visitors to the Abbey, Clayton & Bell's grand series of prophets in the south clerestory of the choir, the Turle memorial window in the north aisle, and the unequalled series in the chapter-house, to say nothing of such remains of ancient vitreous decoration as are presented by the windows of the apse, are completely overlooked.

Much better, and in accordance with the architecture, is Ward & Nixon's work in the side lancets of the eastern chapel of Brandon's great First Pointed church in Gordon Square. This glass, in position on the completion of the church at the close of 1853,* represents various worthies of the English Church within elongated medallions, showing much blue, but set in a ground work of grisaille. Among the figures represented we find, together with several Saxon saints, Anselm, Grostete, Hooker and Jeremy Taylor. These windows of Ward & Nixon's are superior to the three contemporary eastern lancets by Gibbs, and, indeed, to what that artist has since inserted in the choir aisles of this truly magnificent building, which, as might be expected from its architect's diligent researches among the old examples, exhibits reminiscences of an extensive study of them. Raphael Brandon obtained the construction of this edifice by competition, his view seeming mainly to have been the very natural one of showing his capacity to erect a Mediæval church of cathedral-like dimensions and plan without any penchant for a body which, except in the sense of the Creed, it is impossible to speak of as the "Catholic Apostolic Church." The accompanying illustrations serve to give some idea of this grand pile, so imitative of a Yorkshire abbey. The still unfinished nave of five bays has a First Pointed arcade, triforium and clerestory, wherein a considerable deal of work, hereafter to be carved out, remains *en bloc*, and timber roofs of that Perpendicular type recalling Brandon's careful studies of Third Pointed woodwork. A groined roof in the First Style not being forthcoming, so late a type of roof is certainly superior to that conglomeration of king posts and queen posts, struts and ties and braces which were introduced into so many churches of the Revival. At the crux, which is groined for a steeple, which at present rises but little above the roofs—though even in this incomplete state it forms a noble and impressive feature with its low pyramidal capping—the cluster of shafts and deeply-moulded arches is truly grand. The transepts are very short, the northern one containing the organ, whose pipes have lately been diapered with pleasing effect, and the southern grandly fenestrated with a double tier of lancets surmounted by a rose, all affording a splendid field for the display of stained glass, in which they are at present painfully deficient. The eastern limb is not only elaborately groined, but all its carved work is a *fait accompli*, while the cross views afforded by the spacious chapel opening out of the south transept are indubitably most picturesque and impressive. In conjunction with Brandon and his then partner Wyatt, Ward & Nixon had a few years earlier arranged the stained glass, some ancient and some modern, in that sumptuous Romanesque basilican church of Wilton, near Salisbury, which attracted so much notice on its completion.

Ward's stained glass, inserted in the great east window of Lincoln Cathedral about 1854, is only tolerable. Here a great mistake was made in loading an enormous window of eight lights with a series of microscopic subjects in medallions. Grisaille, plentifully introduced with brilliantly tinctured single effigies under spiral canopies, was the only thing to preserve the effect of height, the want of which in proportion to its width is the defect of the Angel Choir.



Interior of the Irvingite Church, Gordon Square.

A few years subsequent to the glass in the great east window of Lincoln Cathedral is that by Ward & Hughes*—for such became the style of the firm early in the sixties—in the series of lancets lighting the northern aisle of the nave, but beyond that of uniformity and a general prettiness there is little merit in this glass. Some of the most satisfactory stained glass in Lincoln Cathedral fills the first four lancets in the south aisle of the nave, the great Perpendicular western window, the circular one above it, the clerestory of St. Hugh's choir and the apse opening out of the south-east transept. All these windows are the work of two clerical amateurs, Revs. A. and F. Sutton, and if indicating too great a striving after antiquation are indubitably superior to most of the modern glass in the minster. Brant Broughton Church in the same county presents specimens of the Messrs. Sutton's work.

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* The building was opened for worship January 1, 1854. An excellent engraving of it appeared about the same time in the *Illustrated London News*.

* The works of Messrs. Ward & Hughes, executed between 1860 and 1880, are extremely numerous, but not sufficiently important to be treated of at great length. The following are a few most deserving of mention. The restoration of the northern transeptal rose at Lincoln Cathedral, and that of the great east window of Gloucester Cathedral. Upon this latter noble work of the middle of the fourteenth century—one to which Winston devoted so many years of patient study—600*l.* were expended chiefly in releading it. The funds were contributed mainly through Bishop Jeune, of Peterborough, who, as Canon Residentiary of Gloucester at the time this most important work was undertaken (1861-62), was indefatigable in their collection. At Ely Cathedral the western of the two Perpendicular windows in the northern transept is Ward & Hughes's work, also the Parable window in the north choir aisle, and the Gideon and Samuel windows in the same aisle of the nave. About 1872 these artists inserted the great east window of St. Asaph's Cathedral. In London the series in the Round of the Temple Church have been inserted from Ward & Hughes's ateliers since the restorations began about 1857 under Mr. St. Aubyn. An early one of the series was executed from the designs and under the superintendence of Mr. Winston. All are in the mosaic or medallion style, and the general effect is good. At St. Anne's, Soho, the extremely beautiful east window (in the Great Exhibition of 1862) was inserted as part of the ameliorations carried out here a few years later under Sir A. Blomfield.

The same gentlemen were responsible for the effigies of SS. Peter and Paul at the west end of the nave aisles of St. Paul's Cathedral. They were inserted about 1863, but some ten years after were taken out and improved—more especially as regards the borders—by Messrs. Clayton & Bell, and their present aspect is remarkably fine.

These works, part of the scheme inaugurated by Dean Milman for the decoration of the cathedral, were given—the St. Peter window by Rev. Dr. Vivian, minor canon (d. 1876), and the St. Paul window by Mr. H. F. Vernon.

In another cathedral, that of Canterbury, the stained glass executed about the same period by the late Mr. George Austin, though more refined than the Messrs. Sutton's work at Lincoln, falls into the same category.

The best work of Mr. Austin at Canterbury is in the clerestory of the choir, which in Mediæval times was filled with First Pointed glass representing the genealogy of Our Lord, each of the large lancets containing two figures.

The cupidity of private collectors, aided by the indifference of the last century, deprived these windows of such portions of their vitreous decoration as escaped the Puritan pikes, a large number of the figures being transferred to the great Perpendicular windows at the west end of the nave and the transepts, for which they were singularly ill-fitted.

This barbarism Mr. Austin, forty years ago, did his best to rectify, replacing in the choir clerestory what he could of the old glass and making good the deficiencies by glass of his own designing and at his own expense. It is impossible to overrate the manner in which this difficult and delicate task was accomplished, for rarely has glass of the First Pointed epoch been more cleverly reproduced, and that without straining after the attainment of an antique effect. It should be mentioned that these windows in the choir clerestory at Canterbury are arranged iconographically in the same order as that shown by Gostling. Mr. Austin's glass in the circular windows of the choir transepts is remarkably good and appropriate, but in his Perpendicular work at the west end of the nave aisle, as well as in several windows of the south aisle—intended to represent the Te Deum—this gentleman was not nearly so successful. The scheme was well intentioned, and the figures show careful drawing, but not only are they too large for the lights in which they are placed, and surcharged with positive colour, but they have not even a soupçon of Perpendicular work about them.

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Alluding in a recent number of *The Architect* to the stone canopy over the tomb of Bishop Ken in Frome churchyard, the writer of these papers erroneously attributed it to Mr. Benjamin Ferrey. It was erected in 1849 from a design by the late William Butterfield, F.S.A.

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Messrs. Lavers & Westlake have written to the author of these papers drawing his attention to the fact that the western window of either aisle, as well as all on the north side, of St. George's Roman Catholic Cathedral, Southwark, are their work, and not Messrs. Hardman's. In expressing his regret, the writer takes the opportunity of informing Messrs. Lavers & Westlake that he proposes noticing these very beautiful specimens of their art when the proper time arrives for doing so.

A CRAFTSMAN IN ITALY.

A MEETING of the Glasgow and West of Scotland Technical College Architectural Craftsmen's Society was held on Friday evening, the 11th inst., Mr. Alex. Davie, I.M., president, in the chair, when a lecture entitled "An Architectural Craftsman's Visit to Italy" was delivered by Professor Gourlay, B.Sc., A.R.I.B.A. The lecturer began by recommending all architectural craftsmen to make at least one visit to the Continent, though for a short time only, to enable them to realise their insular position, and further, as an incentive to reading and study. Whether disappointed, satisfied or exalted feelings pervade one when studying a building on the spot, the result of the study of worthy buildings either at home or abroad is to inspire the student to greater excellence in his future work than he has gained in the past.

Beginning with Venetian architecture, a bird's-eye view of Venice was shown on the screen, and various parts of the city and its buildings were pointed out. Thereafter views of buildings showing Byzantine, Gothic and Renaissance work in Venice, Ravenna, Verona, Milan and Vicenza were shown. Passing to Tuscany, the Romanesque, Gothic and Renaissance architecture of Florence, Siena, Pisa, Pistoja and Prato were reviewed, and finally the Ancient, Early Christian and Renaissance architecture of Rome.

The lecture was highly appreciated by the very large audience of members, students and friends who assembled to hear Professor Gourlay, and pleasant recollections are to be recalled of that sojourn in spirit with him in the land of sunny skies, so dear to lovers of all that is noble, dignified and sublime in architecture.

THE HIGHER EDUCATION IN ARCHITECTURE.*

THE theme of this paper is the higher education in architecture. It is a pressing subject at all times, surrounded as we are by a cloud of specialists; but it has come more to the front lately by the neglect to include it in the scheme for the new London University. Since I was honoured by the invitation to read a paper before your Society, the Owens College, with more prescience and broader views, has made a move in our direction which has influenced some of what follows, and some thoughts are here put together in the hope that they may elicit that interchange of opinion which is always of benefit.

Acknowledgment of the great help received from Mr. Arthur Cates's articles in the preparation of the chart of studies is due. He was chairman of the board of examiners of the Royal Institute of British Architects, and has had probably more experience of the necessity and value of the higher education in architecture and of methods of assisting it, than any other person in Great Britain.

This higher education is sometimes decried, and the question is asked—Is it necessary for the pupil to go outside the office for such knowledge as shall equip him best to distinguish himself in the world? But in Manchester these questions are already answered in the arrangement by principals for their pupils to attend the School of Art for an afternoon in each week. Speaking generally, it may be said that beyond what is termed "professional practice" (which can be learned nowhere else) there is not much opportunity for the higher education in most modern offices. The principal is too much engaged to afford time to be a schoolmaster; and the senior draughtsman has rather to get work out of the pupil than to pump education into him. Much can be picked up, and there is truth in what was said by the principal to a youth when he first went as pupil, "Now, remember it is not what I teach, but what you learn, that will make a man of you." And, after all that can be said and done, no system can be exhaustive. The end of all the education that can be given is to show the lines along which knowledge and experience lie, and to enable the student to educate himself.

St. Mary-le-Bow Church is entirely filled with the productions of Ward & Hughes. A pleasing window is the western one of St. Mary's, Plaistow, Kent, representing the Evangelists, without canopies or accessories, on a cold, white ground. The church itself is a wretchedly commonplace brick structure of about five-and-thirty years ago, but the sanctuary has been greatly improved in appearance since its enrichment with frescoes, stained glass and other furniture from the designs and execution of Mr. Thos. Curtis, the present representative of this old firm of glass painters, whose works, exhibiting much care and iconographical research, will be described later on. A series in St. Peter's, Streatham; the great western Radix Jesse at St. George's, Doncaster; a window in the north aisle of Selby Abbey, with figures of the Blessed Virgin, St. Benedict, St. Germanus and St. Hugh; the east and west windows of Southwold Church; the great east window at Sleaford; the east window of All Saints, Kingston-on-Thames, and the tower window of Loughborough Church, all present much the same characteristics—an ultra-refinement of grouping and feature-drawing allied with a transparency of tincture which may appeal to a certain class of admirers, but upon which the writer is quite unable to dilate.

* A paper read before the Manchester Society of Architects at their meeting on Thursday, January 10, by Mr. Hugh Stannus, F.R.I.B.A., lecturer on architecture at the Manchester School of Art.

The academic method of teaching architecture is followed because it is the shortest. The individual or picturesque design is entirely right for residences; for these latter the student cannot do better that study the perfectly artless houses of our Tudor forefathers that appear to have grown out of the ground along with the trees around them. But for buildings in cities a more severe type seems called for. This has been denounced as "Academic," as if that word were a term of reproach. Let us realise that all through the centuries our art has been subject to the law of evolution. Architecture has its roots in the past, and all attempts to cut ourselves adrift—to say in effect, "Go to now, let us make a new style unlike to all that has gone before"—will only result in an eccentricity which has not even the merit of originality, but is generally an ill-digested jumble of the dregs of outworn styles dragged up from side eddies of the great stream of art. It is a general experience that no student who had any originality in him ever lost it by judicious systematic training. Hence it is better to teach according to a well-considered system during the earlier period of pupilage, leaving the development of individuality to come in the later stage In other words: to generalise in the earlier and to specialise in the later period It has been objected that academic teaching reduces all students to one dull level of monotony; and that, as a result of this, a street in Paris is the same from one end to the other, and is not so interesting as a street in London (in which latter city each shopkeeper doeth what is right in his own eyes, seeking only to shout louder than his neighbours). The first objection is answered above, and to the second it may be replied that the fact is not as stated: the street in Paris is *not* the same from one end to the other. True, the houses have all the same projection of frontage, the same height to cornice, perhaps also the same arrangement of fenestration; but within these limits (which have been fixed for the common good) there is a greater variety of artistic detail than in London, for the Parisian architect, having his mind set free from the lower considerations, can devote himself more fully to what, after all, gives the measure of the artist, *i.e.* the treatment of the features and the details. Further, the academical method of study—shown in the chart at 20, 46 and 68—will bring to the student's mind the strength and the weakness, or the applicability and the inapplicability, of the typical treatments of each of the great styles to the different problems of modern building; and when a man has mastered this—*i e* has learned what to do without—then he is on the direct road to make his own style by the omission of useless details; and, as minds vary, so will the architecture of our streets. The academic training will not supersede the ordinary training as at present given. The two methods may co-exist side by side. There are different kinds of practice: we have those devoted mainly to schools or to colleges, churches, houses, shops or public buildings. There may be different methods of educating the men who work in these, and the student will follow that system which appears the best for his purpose.

Class teaching is used during the first period. If one separate teacher can be afforded to each student, then the system might be individual, but in such a case the student loses the advantage of seeing the various solutions of different problems by other minds, one student thus learning from another, and the further advantage (that is great at his age) of emulation, would also be missed.

"Scholarly but not practical architects," it has been feared by well-wishers, might be the result of the academic training. It is feared that it might produce gentlemen who would talk learnedly about Vitruvius at the dinner-table rather than architects who would design houses without draughts, roofs without leakage and drains without smells. This antithesis between the higher education and the so-called practical education exists generally only in the imagination of those who would decry anything more than the old blundering rule of thumb. Nothing can replace practical experience; the higher education is not to be instead of it but superadded to it. And further, if the result should be to produce unpractical theorists with inflated ideas of their own attainments, then it will find its level. The unpractical student would have a very short engagement, and it would work its own cure.

The principles that underlie all good design in all styles are part of the higher education, and are of more utility to the student than the collection of sketch-book details which are published from time to time, or the rules of Vitruvius. To take one example in that of proportion: it is of more value to have in mind not the old recipes, *e g* that the diameter of the column is to be one-eighth of its height in the Dorian, one-ninth in the Ionian, or one-tenth in the Corinthian style, but the sense of proportion which leads to the avoidance of confusing ratios or false equalities, which is negative and universal rather than positive or limited, and which applies equally to the Gothic as to the Greek.

The word "student" means, in this paper, not male student exclusively, nor exclusively female student. I respectfully decline to limit it by putting any gloss upon it, and I am glad to think that in Manchester, at any rate, there is no question raised about the admission of a woman on equal terms with a man in any honourable profession to which she aspires.

The age at commencement: no hard and fast rule can or should be applied, but we will assume that the student after leaving school will devote a year or two to the preliminary work, such as is given on the chart. This will enable him to take fuller advantage of the academic study, and also to pass the entrance examination.

The length of the course has been assumed as three years, not because that is long enough, but because it is generally all that a man cares to give, and it leaves a margin of a few years—for going as an improver or assistant into an office for the purpose of learning professional practice, for acting as clerk of works, or for continued study in special subjects—before the student attains the age at which he may begin to try to make a practice for himself.

The number of hours in each year, that is marked against each subject, is arranged on the assumption that a student would be able to attend an average of six hours per day (distributed over the morning, afternoon and evening) for five days in the week for forty weeks in the year. This amounts to 1,200 hours per annum.

A division of the year into two halves will be found expedient in Great Britain. Our sessional year commences in October, *i.e.* after the long vacation; and in the first half, until the end of February, the days are usually dark and cold, and therefore not conducive to the outdoor study that is required by such an art as ours; while in the second half, from March to July inclusive, the days are (theoretically) lighter and warmer. Hence the visits by students to see the practical side of our art should be arranged to be to workshops in the first half (7 on chart), and to buildings in progress (19) during the second half. Also in each of the three years the acquisition of the details of a style should be pursued (9 and 10) in the first half, and the using these details in the preparation of designs (20) should be pursued in the second half in each year.

The aim is to make our education systematic rather than sporadic. We all of us desire that those who come after shall be better equipped to fight the battle of life; and we would offer this, or something like this, to the young student who has all his career before him, as also to the young architect who, already in practice, desires to remedy the weak points that he has found by experience. We do not desire to manufacture "Admirable Crichtons," but we would strive so to deepen and broaden the architects of the future that in their intercourse with the client and the contractor they shall hold aloft the ideal of a cultured, practical, and trusted adviser and director. This scheme, thus briefly sketched, when improved, as I trust it may be, by our united experience, will be one that will enable this city to take a foremost place in forwarding the art which, above all others, repays the debt it owes for municipal protection by rendering the city fair to the eye, pleasant to its dwellers and health-giving to all.

The branches of study—plan, construction and elevation—are sometimes separated in different sessions, and taught consecutively; but it would be better to take them concurrently—to emphasise the fact that architecture is one, and that, though the plan in regard to the provision of required accommodation must come first, yet, after this first stage, the whole design exists together in the architect's conception as plan, and construction, and elevation, all constituting a united whole, one and indivisible. The number of subjects, as shown in the chart, appears formidable at first sight; but it is not so in reality. All of the sections should form part of an architect's equipment, and most of them are included in a few good offices. Perhaps in some cases the student will not be able to acquire the whole in the three years. He may then take four years, or may select such sections as may be more immediately useful. It is the duty of any institution providing the higher education to be prepared with a complete scheme. It should aim high, leaving the onus of omitting any portion on the student and his advisers.

PRELIMINARY.

GEOMETRY: Arithmetic, to metrical system.
,, Practical plane geometry.
,, Euclid, Books I. to IV.
,, Algebra to quadratics.

CHEMISTRY: Elementary.
PHYSICS: Elementary.

HISTORY: English nation, A.D. 1050 to 1850.

DRAWING: Shading ornament from the cast.
,, Perspective (elementary).

LANGUAGE: English grammar and composition.

FIRST YEAR.

		Hours per Annum.
(1)	GEOMETRY: Mensuration	40
(2)	,, Solid geometry	40
(3)	,, Euclid, Book V., Plane Trigonometry	40
(4)	MECHANICS: Elementary	40
(5)	MATERIALS: Wood, brick, mortar, cement, &c.	40
(6)	CONSTRUCTION: ,, ,, ,,	80
(7)	BUILDING: Visits to workshops	30
(8)	HISTORY: Ancient nations (elementary)	10
(9)	,, Architectural: Egyptian, Greek, Roman	40
(10)	,, ,, Mouldings and ornaments	40
(11)	DRAWING: Greek and Roman orders	40
(12)	,, Tinting, sciography	40
(13)	,, Perspective (advanced)	40
(14)	ELEMENTS: Wall, door and window, roof	40
(15)	LANGUAGE: French	80
(16)	PLAN: Houses (alternate lecture and problem)	80
(17)	HYGIENE: Site, surveying, levelling	60
(18)	,, Geology and foundations	20
(19)	OUTDOOR: Visits to buildings in progress	80
(20)	DESIGN: Involving use of Classic detail	40
(21)	MODELLING: Decorative features in clay	20
(22)	FIGURE: Antique and life (alternate)	80
(23)	LEGAL: Responsibilities of architects	20
(24)	SPECIFICATIONS	40
(25)	WORKING DRAWINGS	80
(26)	LITERARY: Essays and reports on given subjects	40

SECOND YEAR.

		Hours per Annum.
(27)	GEOMETRICAL: Projection and stereotomy	40
(28)	,, Graphic statics	40
(29)	,, Staircases in wood and stone	40
(30)	MATERIALS: Stone, marble, granite	20
(31)	CONSTRUCTION ,, ,, ,,	80
(32)	,, Iron and steel (elementary)	40
(33)	BUILDING: (Advanced)	40
(34)	HISTORY: Mediæval nations (elementary)	10
(35)	,, Architectural: Romanesque to Gothic	40
(36)	,, ,, Mouldings and ornaments	40
(37)	DRAWING: Romanesque and Gothic orders	60
(38)	,, Penwork, hatching	10
(39)	,, Perspective (oblique, &c.)	40
(40)	ELEMENTS: Column, pier, arcade, buttress	60
(41)	LANGUAGE: Italian	80
(42)	PLAN: Business premises	80
(43)	HYGIENE: Aspect	20
(44)	,, Lighting, heating, ventilation	60
(45)	OUTDOOR: Measured sketches	80
(46)	DESIGN: Involving use of Romanesque and Gothic	40
(47)	MODELLING: Buildings in wood and cardboard	40
(48)	FIGURE: Life and memory (alternate)	80
(49)	LEGAL: Local by-laws, &c.	20
(50)	QUANTITIES and ESTIMATING	20
(51)	WORKING DRAWINGS	80
(52)	LITERARY: Essays and reports	40

THIRD YEAR.

		Hours per Annum.
(53)	MATERIALS: Decay, preservation, fireproofing	80
(54)	CONSTRUCTION: Concrete	20
(55)	,, Iron and steel (advanced)	80
(56)	BUILDING: Terra-cotta, &c.	40
(57)	HISTORY: Modern nations (elementary)	40
(58)	,, Architectural, Renaissance	80
(59)	,, ,, Mouldings and ornament	80
(60)	DRAWING: Renaissance features	80
(61)	ELEMENTS: Vault, cupola, tower	60
(62)	LANGUAGE: German	80
(63)	PLAN: Large and complicate buildings	80
(64)	,, Planning as a fine art	
(65)	HYGIENE: Water supply, drainage	60
(66)	,, Sanitary fittings	20
(67)	OUTDOOR: Water-colour and Photography	80
(68)	DESIGN: Involving use of Renaissance	40
(69)	ANALYSIS and combination of parts	80
(70)	FIGURE: Composition and application of sculpture	80
(71)	LEGAL: Contracts, easements, light, air, &c.	20
(72)	PROFESSIONAL PRACTICE	20
(73)	COLOUR: Theory, &c.	20
(74)	ANCILLARY arts and decorative processes	20
(75)	LITERARY: Essays and reports	40

The notes on the chart which follow are numbered the same as the sections to which they refer:—(9) The student is learning not archæology but architecture, and the historic details, useful in study, are not to be shackles to his mind. (15) No apology will be needed for suggesting the modern rather than the classic languages; but in advanced studies both Latin and Greek might be added, if the student have had previously a good grounding at school. (16) The teaching of plan to be gradual, from the smallest cottage with no corridors to the elaborately articulated town hall, showing the merits of the picturesque and of the stately method. (17) In hygiene, from questions relating to Site to the most complete Sanitation. (19) The whole of architecture cannot be taught indoors in any school; the student must be brought face to face with the practical problems; hence the systematic visits to workshops and buildings cannot begin too soon. (21) Modelling will teach not only the texture produced by light and shade, but the dependence of the treatment of detail upon the material in which it is executed. (25) A means to an end. Clearness is the great desideratum. (26) To inculcate habits of observation and of stating facts or instructions in good clear English. (32) Much more knowledge of this is now required than formerly. (45) Visits of three or four days at a time to a cathedral or to some county, like Northampton or Somerset, rich in local work. (47) Not as toys, like the Swiss chalets, that the traveller purchases at Lucerne, &c., but scale-models that the architect may study from the different points of access, and the client may see the exterior effect of what he wishes. These have been much in evidence at recent Royal Academy exhibitions, and will be found useful in other ways. (67) Travelling tours, of a week or a fortnight on the Continent under supervision, would lead to the subsequent longer periods of independent travel. Photography is not to supersede sketching, but each will help the other. The camera is not to be a snapshot, but suitable for serious work, and the student must learn the rationale of exposing, developing and printing, that he may not be dependent on anybody to "do the rest." (69) The neglect of this branch of study in England is sadly apparent in many of our monumental buildings. (22, 48, 70) Eighty hours per annum seems much for this, but independently of its direct value in enabling the architect to show sculpture in his designs, and afterwards to superintend intelligently its execution, or to show figures in his perspective views and thus give scale to them, it has a subtle refining influence over the taste which cannot be overestimated.

The gradation of studies in various subjects is shown in the chart. Thus in section of draughtsmanship, the student would learn tinting and sciography in the first year, line-work and hatching being superadded in the second, and the further addition of water-colour painting in the third. So also in the section of history: as the six great periods of architectural evolution would be spread over the course of three years, so should the elements of the three great periods of general history be taken collaterally, in order that the mutual interdependence of civilisation and architecture, and their corroboration of each other's testimony, be realised. Again, in the section of languages, French, Italian and German are arranged in the order of their usefulness to the architectural student. For literary or archæological purposes, German is immeasurably more important than either of the others; but in the gradual unfolding of his work, for architectural books and for the first year of foreign travel, French will be found the most useful. It might be asked, Why should a subject like hygiene be taken through three years? Why not take it altogether in one year and have done with it? This manner of "having done with it," in one of the most pressingly important sections of our work, is in an altogether wrong spirit. It might be further answered that the subject is so large that it would take too much time in one year; and, secondly (which is more important), the student in his first year does not realise its necessity. He would consider it too dry, and, consequently, not assimilate it. We should not give knowledge that is too much in advance of the student's idea of the necessity for it. Let him see the value as he is gradually able to grasp it, and we will have no listlessness in our class-rooms.

The grading of students according to their year of study should be arranged so that, while they should be allowed the run of the whole place, those working at the same problem should be in the same room.

Advanced lectures should always be delivered in the evening, so that architects already started in office work might attend for any subject that they desire.

Popular lectures given in the evening (or, perhaps, late afternoon) will be always useful in enlisting the sympathy of the outside public by interesting them in the history and growth of our art from one style into another according to its environment, and thus help the understanding of our clients. And, perhaps, free Sunday afternoon lectures, varied by a peripatetic talk about some of the fine examples of architecture that we possess here, might lead the man in the street to realise that the walls of our cathedral were raised for another purpose than merely to strike his pipe-lights upon.

A library, not large, but well selected, and in or close to the classrooms, is a necessity. Also a good set of text-books. Much of the teacher's time can be saved by the judicious use of text-books, *e.g.* Spiers's book on "Architectural Drawing"; but there is, speaking generally, a dearth of proper ones, and the present widespread efforts to place our professional education on a legitimate status and along correct lines will, no doubt, sooner or later cause a demand for properly arranged and clearly written ones. Then the supply will follow the demand.

A museum, similarly arranged, is also a necessity, and the contents are to be chosen on account, not of their rarity, but their educational value. Full-size casts should, as far as possible, be placed at their normal distance from the eye, and models of parts of buildings to a small scale and of typical examples of stereotomy and of vaulting should, of course, be provided. The museum would probably be used as one of the lecture-rooms.

Attendance on lectures is generally made a condition of the granting of ordinary degrees, but in view of the special circumstances of the modern architect in the modern city this might perhaps be modified. Compulsory attendance is naturally a part of the system at our older universities which were founded on monastic institutions, another part of their system being the compulsory residence under collegiate discipline and the daily contact with professor and tutor, which is useful in forming manners as much as in imparting knowledge or testing ability. But the modern stressful life of Manchester and its belt of subsidiary cities kills the monastic idea, and leaves no place for monastic manners. Still, if attendance be required it might be arranged that this should not be enforced for a period of three years from the inception of the system, say not before 1904; and, further, that any student who desired to proceed to a degree during this transition period should be admitted to the examination on proper recommendations.

A certificate could be granted to any student who had attended the lectures of one particular section and satisfied the examiner on it without his being compelled to take the whole course. Thus the system would be made elastic, until sufficient experience had been gained.

Examinations are necessary at the end of every course, be it long or short. The fear of the examination may be said in many cases to be the beginning of wisdom. Examinations are useful to everybody concerned—to the Student as an incentive and a gauge of his progress, to the Teacher as a test of his methods and of the minds of his pupils, to the Institution as a test of the system. Some people object to examinations because (they say) you cannot examine in design. They mean the æsthetic design of elevations, ignoring altogether the design of plan and the design in hygienic matters. It is not denied that the ability of the student to deal with questions of plan and hygiene can be tested; and so also can the ability to clothe his plan with appropriate details and judicious proportion, in any style or in no style. The question of the historic styles (*i.e.* the grooves worn by the chariot wheels of our predecessors) does not enter into the examination; and the individual predilection of any examiner does not affect the question in any way. In all examinations the system of *viva voce* should be added to the paper tests, giving as it does a fair opportunity to the nervous student to rectify clerical errors, and also to the examiner the opportunity of distinguishing between knowledge and cram.

The pupilage system must be considered in relation to this scheme. The question is asked, How can the academic system be worked in connection with it? Would not two years in the technical school and the school of art, followed by three years in an office, be a better training? Answering the latter question: it depends on the office. If the principal is willing to devote his time to the instruction of his pupils, then the answer would be yes; for so long as the student obtains his training it matters little where he goes. Then the principal becomes a teacher once more; but a counter question may be asked, Will the principal do this? and the fact that in most cases the student has to attend classes in the evenings for the purpose of acquiring knowledge is a significant reply. Like the bygone apprentice system, that of pupilage must be reconsidered in view of the altered conditions. Probably in cases where the principal cannot personally give the proper amount of time to each pupil that he takes, he will cease to take premium pupils, and will employ young men as improvers or junior assistants after they have passed through the course. The "parents or guardians" will then pay the college fees instead of the premium; and if the course be a judiciously arranged one, and the student be industrious, then he will be worth more to the principal, though without premium, than at present. The question before us, then, is:—When a collegiate seat of learning offers to open its doors to our students, to give them the opportunity, the incentive and the reward of knowledge, what attitude shall we adopt—shall we retain the premium system exclusively, and say "Non possumus," or shall we, without prejudice to that system, join sympathetically in a large-minded offer to raise the status of education for those who will succeed us?

THE GLASGOW INFIRMARY.

A MEETING of the Glasgow Royal Infirmary reconstruction committee was held on the 11th inst, the Lord Provost presiding. The sub-committee on plans reported that Mr. James Miller, architect, 223 West George Street, had been informed by letter that his design had been adopted by the committee, and he had been unanimously appointed architect of the work; and, further, that a letter had been received from Mr. Miller accepting the appointment, with thanks, and stating that his best efforts would be devoted to discharging the work to the satisfaction of the executive. At a meeting of the sub-committee on plans the following report was submitted by the architect, dated January 10:—

"As requested by the sub-committee, I now beg to report first as to the order and method I would recommend for proceeding with the reconstruction of the buildings. In making this recommendation to your committee the chief points I have had in view are these—1st, that a considerable portion of the permanent buildings should be erected and made ready for occupation before any part of the present structure is demolished, and the reconstruction proceeded with in such a manner so that the bed accommodation of the institution will at no time during the reconstruction be less than it is at present; 2nd, to incur as little inconvenience as possible to the patients and staff, and to cause the least interference with the convenient working of the institution during the whole of the reconstruction; 3rd, to avoid as much as possible the necessity for temporary buildings. With these points in view I would recommend that the reconstruction be proceeded with in the following manner, namely:—

"First, to erect the north wing or surgical block on the space between the present north block and the St. Mungo's College. This block is 290 feet long, and contains 13 large wards and 12 small wards, and contains in all 224 beds. This block is six storeys high, and contains six complete surgical services, with operating theatres, outdoor patients' rooms, day-rooms and surgeons' residences, and the basement contains the Russian and Turkish and other baths, and is in fact a complete infirmary in itself, minus kitchen offices. This block I consider will take about two years to build.

"Second, when the above block is ready to receive patients those in the present south block will be transferred to that block. The present south block could then be demolished and the building of what is called the Jubilee block proceeded with. In order to hasten the early completion of the Jubilee block I would suggest that the contracts for same be got out, say, about twelve months previous to the completion of the north block. The work could then be placed in the contractors' hands; all the materials could be prepared and made ready for erection, so that immediately the north block was ready for occupation the south block could be demolished and the erection of the Jubilee block proceeded with. With the hewn work and all the materials ready I see no reason why this block should not be ready for the roof within eight months from the time it is commenced. The Jubilee block contains 239 beds, which with the north block will give a total of 463 beds.

"Third, on the completion of the Jubilee block the next portion of the building to be erected would be the main central block, which runs north and south, and forms the connecting link between the north and the Jubilee blocks. The erection of this block would complete the whole of the main buildings.

"It was suggested by the sub-committee at their last meeting that it would be an advantage to erect a temporary kitchen and stores in a more central position than the present kitchen, which is at the extreme end of the site. I thoroughly approve of their suggestion. The kitchen in its present position would be rather inconvenient for service in the new north block, which of itself is a very large building; and in any case it would require to be removed previous to building the Jubilee block. The position which I suggest for the temporary kitchen I have indicated on the plan accompanying this report, and from its central position it will be most convenient for all parts of the building. The erection of the kitchen, however, need not be proceeded with immediately. It will be sufficient if it is ready for use by the time the new north block is ready for occupation. The plan above referred to also shows the relationship of the new buildings to the existing ones, and how the method of reconstruction can be carried out."

Sir David Richmond said it would have been much more satisfactory to him and to many others had it been possible that the Jubilee memorial block could be proceeded with first of all, so that both the subscribers and Her Majesty might have seen it completed at an earlier date. It was found, however, that they would require to spend a large sum of money for temporary accommodation to do this. It was absolutely necessary to fall in with the suggestions submitted because of the difficulty of reconstruction in an institution such as that. In selecting the plans the committee had acted on the most straightforward principle they possibly could. The members of the committee knew the architects only by a letter of the alphabet, and while there might be some little discontent outside as a result of their decision, the committee had done what they considered best for the institution. They recommended that a new sub-committee should be appointed to confer with the architect and arrange for the reconstruction, and generally for carrying out the wishes of the subscribers, and also of the governors of the institution. They recommended that it should consist of not more than ten gentlemen, who would be likely to take an interest in the work.

Sir James King, in moving a vote of thanks to the committee, said they ought to be consoled in not having the Jubilee block erected first by the fact that temporary buildings would not be required.

Sir David Richmond explained that the temporary buildings they would have to put up to accommodate the patients in the front building, if they wished to go on with the Jubilee block first, would cost from 7,000*l.* to 10,000*l.*, and that practically would be thrown away.

Mr. Forester said it might be considered advisable at present to have some explanation how the committee proposed to finance the whole scheme. The funds in hand only amounted to about a third of the sum required.

Sir David Richmond said they had 82,000*l.* in hand, and with other money promised and interest accruing, he felt confident they would have 100,000*l.* to work on. They considered this was enough to begin the reconstruction of this institution, which would probably extend over the next ten or twelve years, and cost from 230,000*l.* to 250,000*l.* They thought they were justified in beginning, knowing the generous character of the people of Glasgow when money was required. They had as much as they would expend during the next four or five years.

Mr. Forester said they were quite satisfied that there was a distinct understanding that no greater expenditure would be incurred than the funds warranted, so that in any case no debt would be incurred without at least the committee being consulted.

Mr. M'Cowan thought, with reference to the proposal to appoint a sub-committee to supervise the reconstruction, that they should not go on before the governors of the Infirmary had a voice in the matter. He further remarked that they should have some assurance that the scheme would be carried out.

Mr. Hugh Brown suggested that they should delay the appointment of a sub-committee for a fortnight, in order that a communication might be made to the managers of the Infirmary, so that they might be represented on the sub-committee.

This course was then adopted.

ARCHITECTURAL ASSOCIATION OF IRELAND.

An ordinary meeting of the above Association was held in the Grosvenor Hotel on the 8th inst. In the absence of the President, the chair was occupied by Mr. Walter Doolin, M.A. Mr. M. J. Tighe, in the affirmative, opened a debate "That the present system of apprenticeship is best suited for the training of an architect." Mr. F. G. Hicks replied in the negative, and an interesting discussion ensued, in which Messrs. Hudman, Lynes, R. M. Butler, Scott, Allberry and the Chairman took part. Ultimately the following resolution was carried:—"That, in the opinion of this meeting, the present system of pupilage concurrent with a compulsory collegiate training and qualifying examination affords the best promise for the architect of the future."

GENERAL.

The Committee on Architecture of the Glasgow Exhibition desire to present, as far as possible, an exhaustive exhibition of the best works of British architects, and an appeal for assistance towards this end, signed by Messrs. Fra. H. Newbery (convener), J. J. Burnet, W. Forrest Salmond, and J. Keppie, is about to be issued.

Mr. W. W. Morris, architect and surveyor, died last week at his residence in Middlewich.

An Exhibition of water-colour drawings and studies by the late John Ruskin will be held during the month of February at the Gallery of the Old Water-Colour Society, 5A Pall Mall East, S.W.

The Society of the Friends of the Louvre have purchased for 70,000 francs and presented to the Louvre a fifteenth-century tapestry of the "Last Judgment," in very good condition, which belonged to the collection of the Duke of Albi, believed to have been executed from cartoons of Quentin Matsys.

Sir Lawrence Alma-Tadema, R.A., visited the Worcester Royal Porcelain Works last week, and selected a dessert service for presentation by the Dutch residents in London to the Queen of Holland upon the occasion of her wedding.

M. Jacques Bardoux, barrister, a son of the late esteemed statesman, took Ruskin as the subject of his degree thesis at the Sorbonne. His warm eulogy, though subjected to the customary criticisms by the examiners, met with general approval.

The Eastbourne Town Council have determined that the memorial statue of the late Duke of Devonshire, the founder of the town, shall be placed on the sea front. Mr. Goscombe John, the sculptor, hopes to be able to arrange for its unveiling during September. The statue in bronze will be exhibited at the next Academy.

Sheriff Balfour, Glasgow, has issued his award in the arbitration between the trustees of St. Columba parish church, Glasgow, and the Caledonian Railway Company. The site of the church is required for the extension of the Central Station, and the trustees claimed 92,232*l.* as compensation. The arbiter has allowed them 43,000*l.*, which is at the rate of about 30*l.* per square yard.

Professor Silvanus Thompson gave a lecture last week at the Urania in Berlin upon "Faraday and the English School of Electricians." There was a large attendance. Many of the leading German authorities on physics and chemistry and the engineers of important industrial undertakings were present. The lecture, which lasted for nearly three hours and was illustrated by numerous experiments performed in many cases with Faraday's own apparatus, was listened to with the greatest attention, and Professor Thompson was warmly applauded at its conclusion.

The Geological Society have awarded its medals and funds as follows:—The Wollaston medal to Dr. Charles Barreis, of Lille; the Murchison medal to Mr. A. J. Jukes-Browne, of Torquay; the Lyell medal to Dr. R. H. Traquair, of Edinburgh; the Sigsby medal to Mr. G. H. Lamplugh, of the Geological Survey; the Wollaston fund to Dr. A. W. Rowe; the Murchison fund to Mr. T. S. Hall, Melbourne; and the Lyell fund to Dr. J. W. Evans and Mr. A. McHenry.

The Liverpool Architectural Society will hold the second members' meeting at the Law Library, 41 Castle Street, on Monday next, the 21st inst., at 6 P.M., when a paper will be read by Mr. Ronald P. Jones, B.A, entitled "The Saracenic Architecture of Cairo," illustrated by limelight views.

The Wesleyan Chapel Committee have sanctioned during the past year the erection of ninety-five new chapels at an estimated cost of 288,339*l.*

The Luxembourg Gallery has received seventeen paintings and thirty drawings by the late Rosa Bonheur. They were presented by Mdlle. Klumpeke.

The American Institute of Architects will hold their next convention in Buffalo. The Pan-American Exhibition determined the choice of that place.

The Professorship of Ancient Literature in the Royal Academy is now vacant, owing to the lamented death of Dr. Creighton, Bishop of London.

M. de Gourlet, inspector-general of the French National Palaces and conservator of the Elysée Palace, is retiring after forty-two years service. M. Oudinot has been appointed to the first-mentioned office and M. Raguet to the second.

Mr. A. Ross will on Friday next read a paper dealing with "Railway Construction" before the Institution of Junior Engineers.

St. Martin's Town Hall is to be the Guildhall of the City of Westminster.

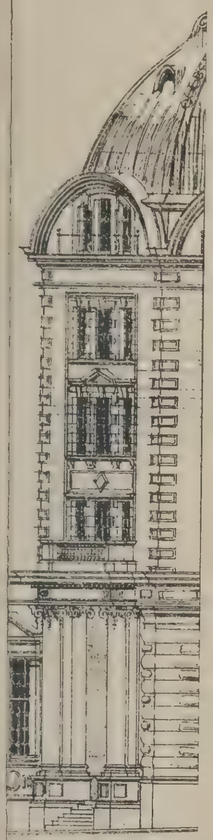
Baron Johann Faber, whose manufactures are familiar in architects' offices throughout the world, died on Tuesday at Nuremberg, where his pencil factories are to be found.

Sir W. H. Stephenson, of Newcastle-on-Tyne, has presented a chapel, at the cost of 4,000*l*, to New Benwell.

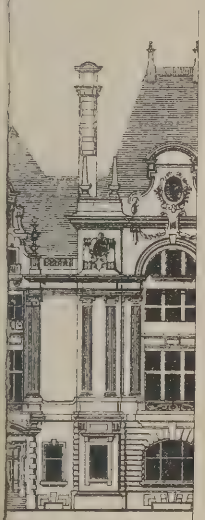
Mr. Bruce Joy's studio at Hindhead has been totally destroyed, with its contents, and the loss to the artist will be considerable.

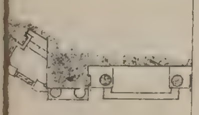
The Belfast Architects are about to form a local organisation which will be affiliated with the Royal Institute of Architects, Ireland, for the protection of the interests of the profession.

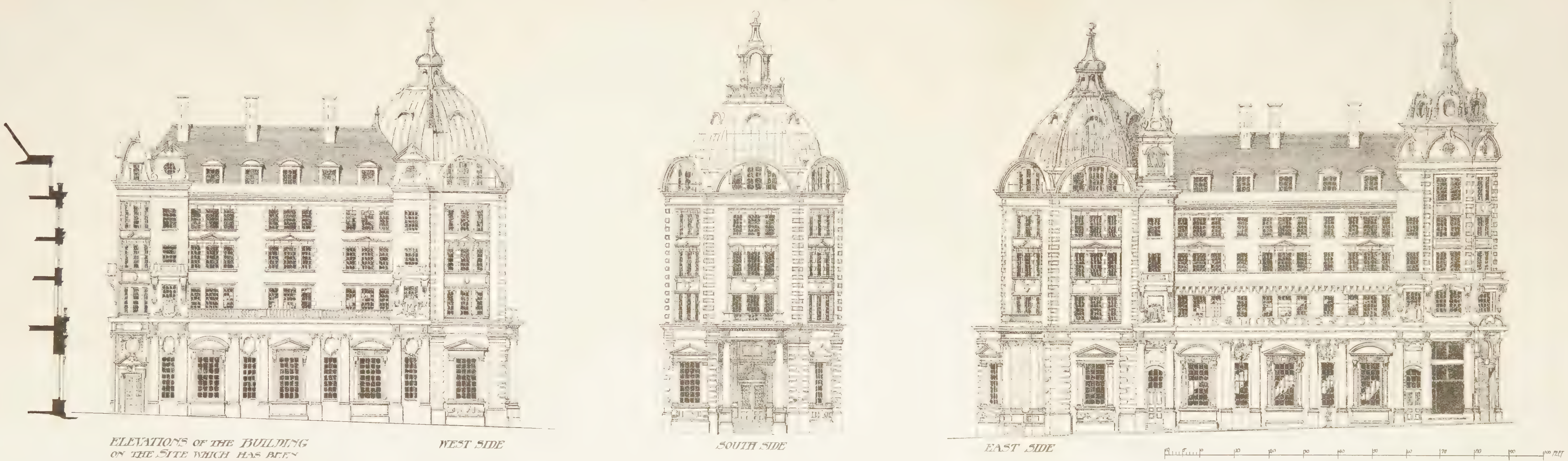
M. Arnold Boecklin, the Swiss painter, has died in Florence. He painted not only landscapes, but mythological and allegorical pictures.



EAST SIDE





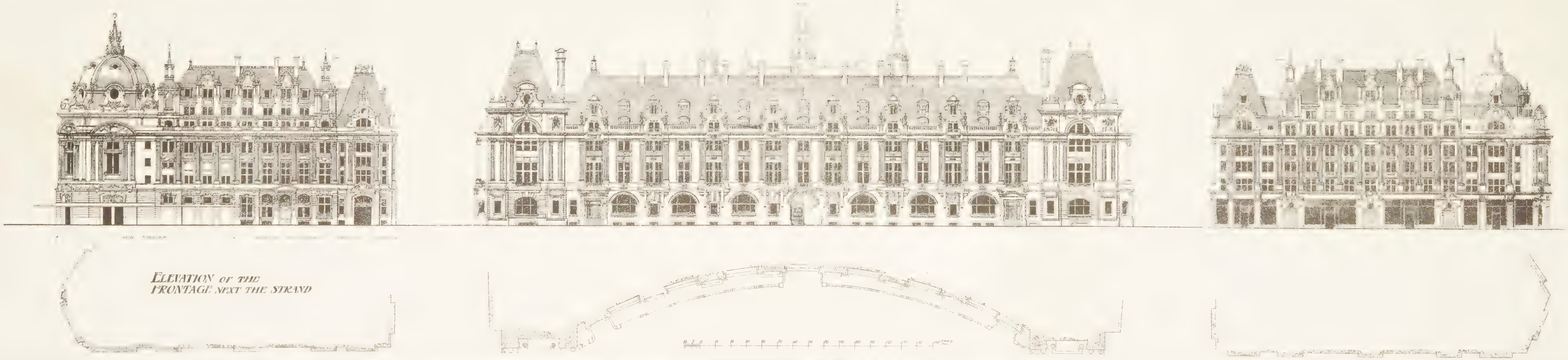


ELEVATIONS OF THE BUILDING
ON THE SITE WHICH HAS BEEN
RETAINED FOR THE REINSTATEMENT
OF THE "MORNING POST"

WEST SIDE

SOUTH SIDE

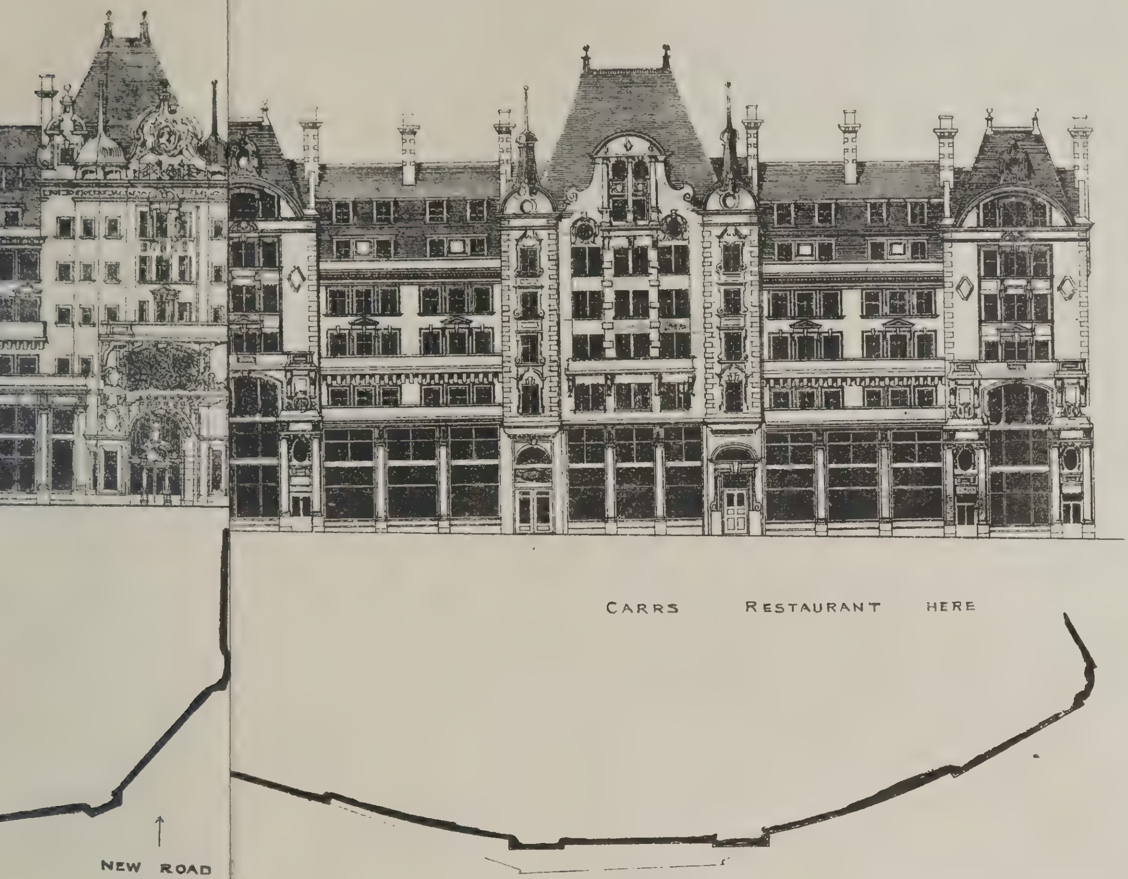
EAST SIDE



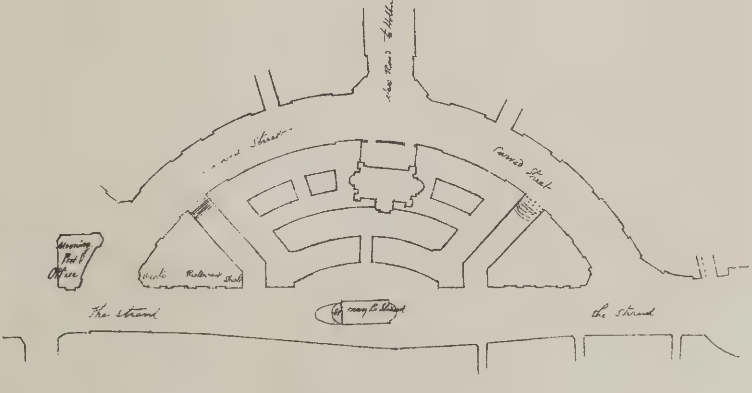
ELEVATION OF THE
FRONTAGE NEXT THE STRAND

PHOTO LITHO SPRAGUE & Co. Ltd. 4 & 5 EAST HARDING STREET FETTER LANE E.C.

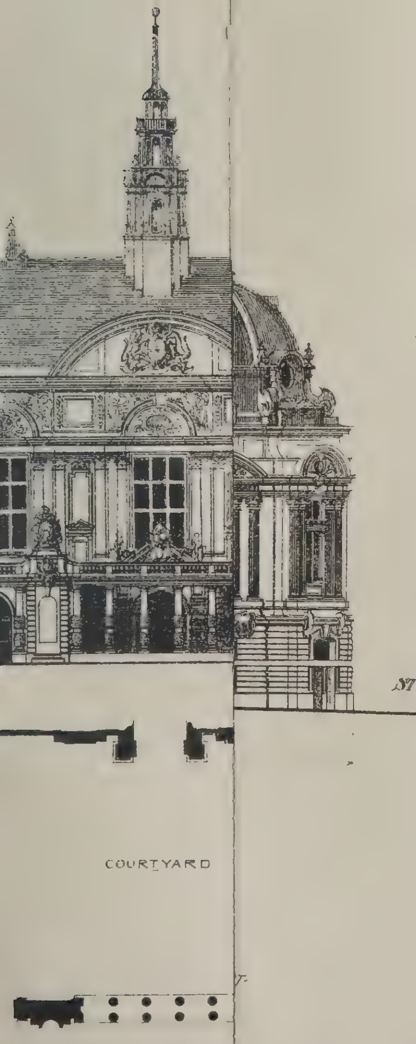
THE LONDON COUNTY COUNCIL HOLBORN AND STRAND IMPROVEMENT. DESIGN No. 27.



NEW ROAD TO HOLBORN OPPOSITE HERE



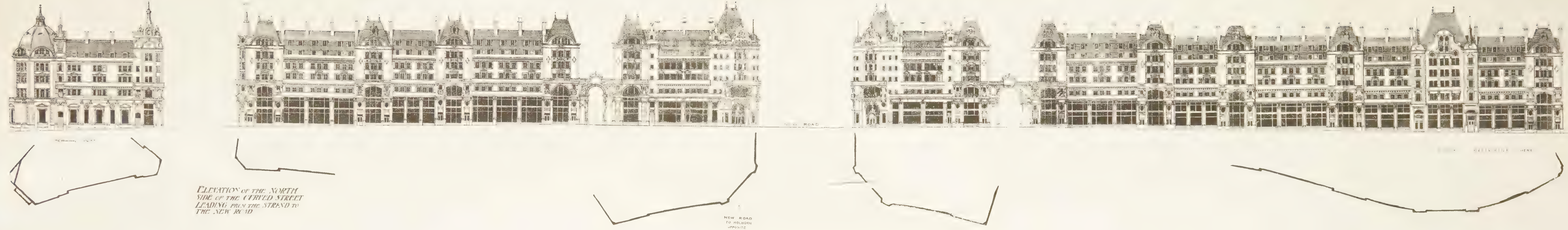
BLOCK PLAN



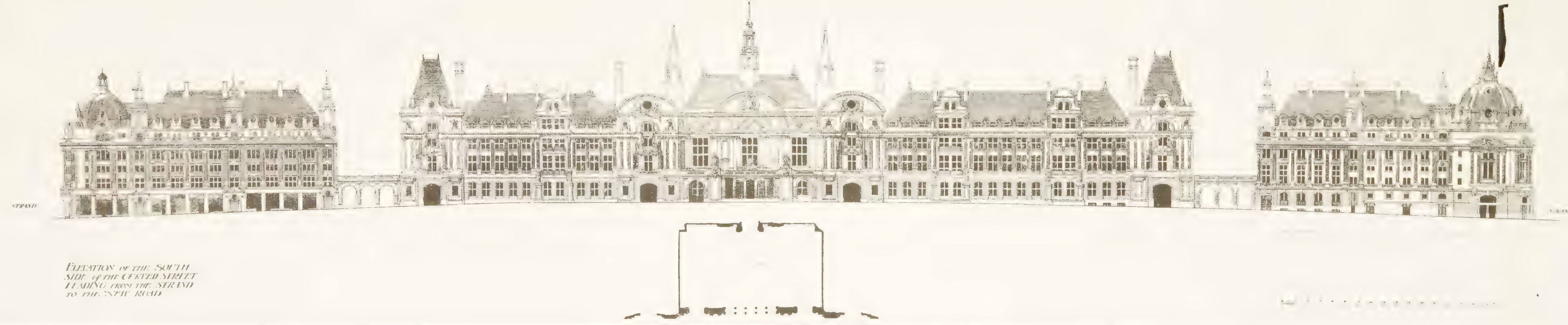
STRAND

PHOTO-LITHO. SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

OUNTY COUNCIL H



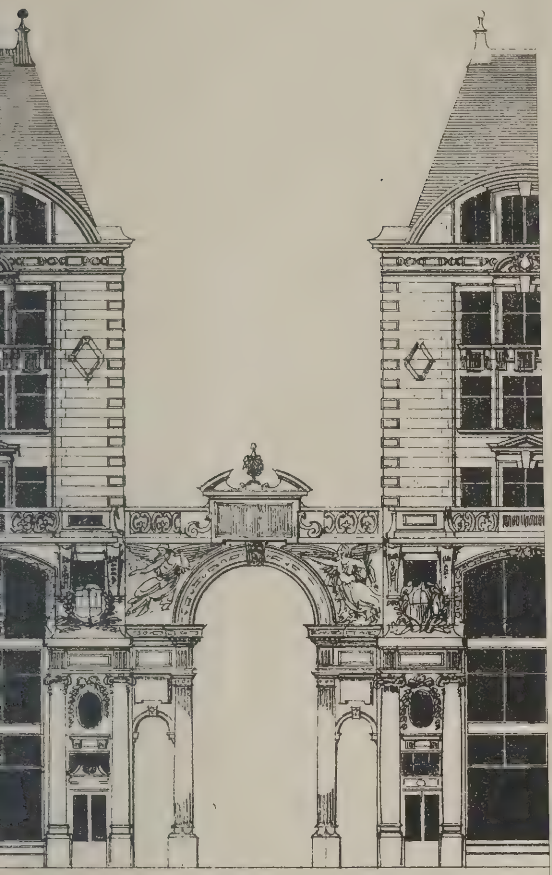
ELEVATION OF THE NORTH SIDE OF THE CURVED STREET LEADING FROM THE STRAND TO THE NEW ROAD

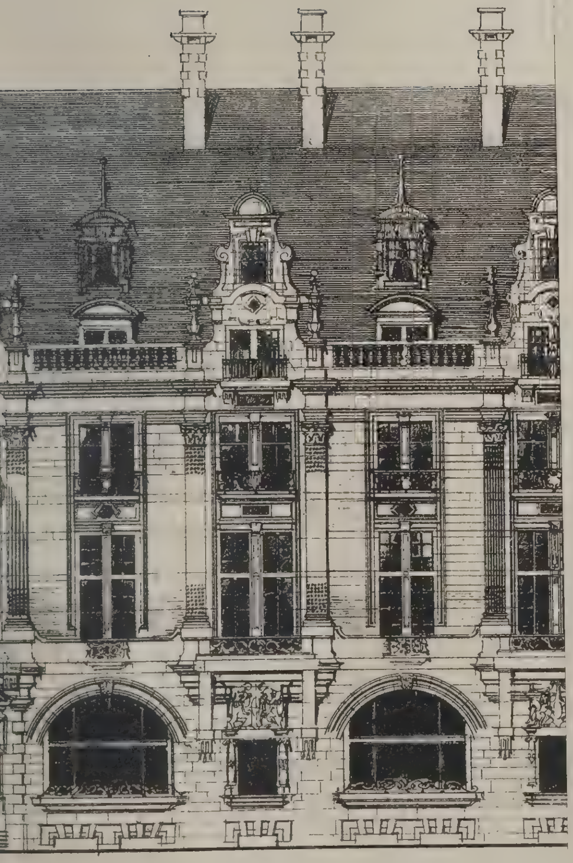


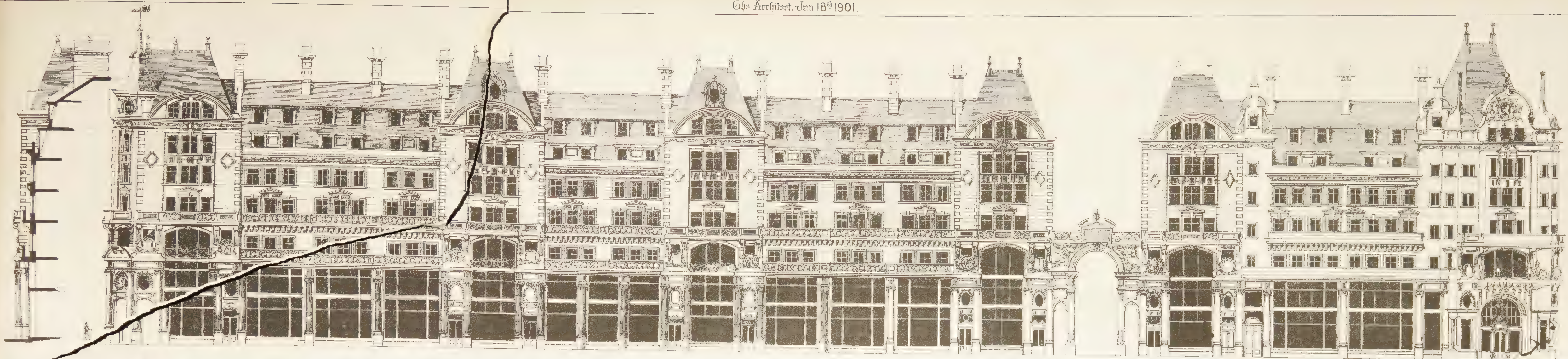
ELEVATION OF THE SOUTH SIDE OF THE CURVED STREET LEADING FROM THE STRAND TO THE NEW ROAD

BLOCK PLAN

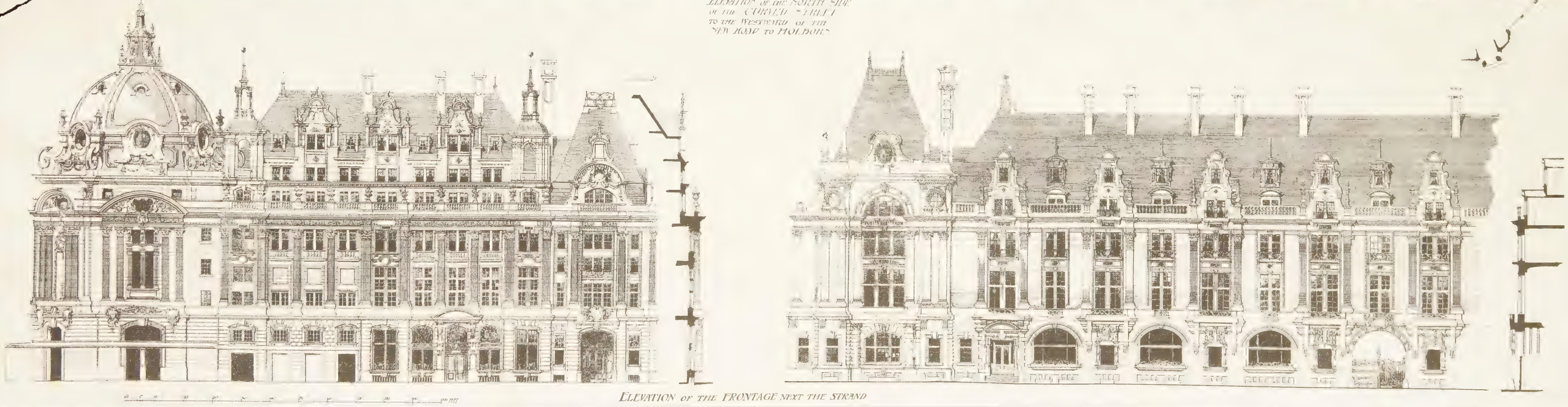
THE LONDON COUNTY COUNCIL HOLBORN AND STRAND IMPROVEMENT. DESIGN No 27







ELEVATION OF THE NORTH SIDE
OF THE CURVED STREET
TO THE WESTWARD OF THE
NEW ROAD TO HOLBORN



ELEVATION OF THE FRONTAGE NEXT THE STRAND

THE LONDON COUNTY COUNCIL HOLBORN AND STRAND IMPROVEMENT. DESIGN No. 27.

VICTORIA.

THROUGHOUT her long reign Queen Victoria gained the love of her subjects, and the grief which now pervades all classes is no more than the complement of the devoted affection which for so many years she could claim as a right. The constitutional maxim, "The Queen can do no wrong," was interpreted as a reality. The criticisms on the trivial differences with Cabinet ministers which arose in the early part of the reign over the domestic arrangements of the Court were enough to reveal the microscopic scrutiny which was applied to every act of the sovereign which might be interpreted as having a political significance. It could not be expected that the Queen was to act as an automaton and to have no opinion of her own, but for over sixty years it could be said Her Majesty was of the same mind as the majority of her subjects. Never was sovereignty exercised more gently or more wisely, or with a broader view of the requirements of the Empire.

It was owing to a belief in the absolute justice of all Queen Victoria's actions that occasionally regret was expressed about the extent of the patronage which Her Majesty bestowed on English art. Everyone who spoke on the subject believed there must have been influences at work which checked the Queen's inclinations. A slight consideration of the subject will be enough to demonstrate that what was done, as well as what was omitted, was dictated by prudence.

Undoubtedly the Queen at the beginning of her reign possessed more acquaintance with art than was common among English ladies at that time. With skill beyond that possessed by the average amateur there was also the generous impulse to give art its due supremacy. But the atmosphere of the Court was too chilling to admit of any display which was not warranted by a Chamberlain's rules and regulations. When the Queen dared to accompany Thalberg, the pianist, by singing while he played, not only were officials and dowagers shocked, but the people agreed with them. For what was Thalberg more than a performer who could be hired at so much a night? At that time it was usual at the palace concerts to have a cord drawn which separated operatic soloists and musicians from the audience. There was no distinction made between the arts and their representatives. As it happened, many of the latter were of a character which was not adapted to win general respect.

The effect produced by the Thalberg incident was enough to convince the Queen and her advisers of the great difference between English and foreign ways in the treatment of artists, and enthusiasm was consequently subdued. It required no great research to discover that in preceding reigns patronage of artists was not advantageous to royalty. Her Majesty's grandfather was most generous towards Benjamin West, who restricted himself to subjects which were scriptural or moral. But the pictures were supposed to prove the king was wanting in taste, and as the artist was an American it was concluded His Majesty was indifferent to English art. At the beginning of Queen Victoria's reign there was a likelihood that any favour shown to a particular artist would be no less misinterpreted. If the President of the Academy, Sir Martin Shee, on account of his official position were selected, it would be ascribed to the praise he so often poured forth on royalty rather than to his merit as an artist.

In 1837 the Royal Academy occupied for the first time the rooms in the National Gallery, and the exhibition was visited by William IV. The following year was considered to be one of the least successful in the history of the Academy. Turner, Landseer and Maclise were considered to have contributed the most attractive works. Turner's landscapes were made the subject of much controversy, and nobody who had to consider the opinion of other people would care to buy any of them. Maclise subsequently was able to rely on the encouragement of royalty. Landseer's works charmed the Queen, and he became a royal favourite. But he was doomed to suffer the fate of most courtiers. He suffered acutely whenever he imagined he was slighted, and his happiness seemed to depend on trivialities. What happened to Landseer should be enough to deter other artists from giving way to the ambition to have entry to Court circles. Painters like Winterhalter and Von Angeli were to the manner born, or from experience in foreign palaces had acquired the tact and toughness which enabled them to understand their position and never to aspire beyond it. Besides, there was an uniformity in their style by which the relationship of royal and princely subjects everywhere was suggested. It cannot be said that the foreign portraits are superior to English works, but allowances should be made for circumstances which made the employment of strangers almost a necessity.

Prince Albert was able to sympathise with the Queen's love of art, and to share in it. But an incident early arose which caused almost as much commotion as the duet with Thalberg. The Queen and her husband made of etching an occasional enjoyment. It was an art which was then not often practised. Copies of the prints were surreptitiously obtained, and were reproduced by a low publisher to gratify the curiosity of the public. It was necessary to have a complicated action at law before the publication could be suppressed. The effect of the prints was to convince ignorant people that royalty finds it difficult to kill time, not remembering it is only during the intervals of graver occupations the arts can be followed in a palace.

Art in other forms engaged the attention of the royal artists. It is not now remembered that mural decoration was introduced in this country by the Queen and Prince Albert. Fresco painting was practised on a grand scale by Cornelius, Kaulbach and other artists. The works gave delight to Germans. Why should not similar pictures be executed in England? As an experiment it was decided to make the walls of a summer-house in the gardens of Buckingham Palace become illustrative of Milton's "Comus." Eastlake, Maclise, Landseer, Dyce, Stanfield, Uwins, Leslie, Ross were selected for the paintings. Only one German was employed, L. Gruner, for the borders and ornament. Afterwards the Houses of Parliament were undertaken. The early results in mural work were disappointing, and it was generally supposed the English climate was unfavourable to fresco, but that does not diminish the debt to those who endeavoured to make the noblest variety of painting popular in Great Britain.

Of more importance as a public event was the International Exhibition of 1851. It may be allowed that general exhibitions of arts and industries had been held long before in Paris, and the project of an English exhibition originated in the Adelphi rather than in Buckingham Palace. As a creation, however, the credit for it must be assigned to the Queen and Prince Albert. As one of the addresses to Her Majesty stated, "Your Majesty's name headed the subscription list, and animated all classes to assist in making the Exhibition self-supporting; your Majesty's contributions as an exhibitor afforded even still more practical aid. History does not inform us that any other sovereign of this country has ever shown so personal and affectionate a regard for the progress of the arts, sciences and industry of the people as your Majesty did on this occasion, a fact which makes us hope that a continued and most auspicious development of them will be the consequence." The year 1851 was perhaps the happiest in the Queen's life, for then it was supposed a new era had commenced which would ever be associated with the names of Victoria and Albert. As it happened, the visions were as fleeting as the pictures in fresco, but the Queen could always look back to the Exhibition in Hyde Park as if it were the glory of her life. Always an institution which bore a remote relationship to the Exhibition was sure of Her Majesty's favour.

Exhibitions, with their countless objects of art and industry, and, in fact, all works of artists, must appear trivial if compared with the Imperial interests which engrossed the Queen's attention during her reign. They could not be set aside under any circumstances. In dealing with them Her Majesty was true to the spirit of the country. However painful was the duty it was performed. Who can say to what extent the development of the Empire is due to the faithful discharge of all obligations by the Queen, and to the confidence with which all classes were filled in the "king-becoming graces" which, according to Shakespeare, are "justice, verity, temperance, stableness, bounty, perseverance, mercy, lowliness, devotion, patience, courage, fortitude," and which never before were so united in an English king or queen?

The Architect.

THE WEEK.

By the death of Mr. John Burnet on the 15th inst., in his eighty-seventh year, an architect who long was recognised throughout Scotland as a master of his art has passed from among us. For several years his son, Mr. John James Burnet, A.R.S.A., who was a student of the Ecole des Beaux-Arts, was associated with him as partner. Several of John Burnet's buildings were illustrated in *The Architect*. He was probably the first architect in Glasgow to employ sculpture on a large scale in connection with building. The esteem for Mr. Burnet was exhibited a few years ago, when, on the celebration of his golden wedding, his friends determined to present him with his portrait, which was especially painted by Mr. James Guthrie. On that occasion Mr. Burnet gave some interesting reminiscences of his early days as an architect. Referring to the educational movement, he said that some training in one of the trades with which architecture had to deal was of great value to the architect. Doubtless architecture might be more quickly taught in a technical college, but the knowledge so gained was apt to be superficial. Mr. Burnet had witnessed during his long career many changes in Glasgow, but as long as his buildings last they will be a record of his great ability.

At the first annual meeting of the court of governors of the University of Birmingham, the Colonial Secretary, who is Chancellor, was able to preside. Mr. Chamberlain described the present state of the project, as well as the arrangements which it was proposed to make in the future. The donations promised amount to about 410,000*l.*, including the value of 25 acres of land which Lord Calthorpe has presented. Large as is the sum, it is insufficient to erect all the buildings which are needed, and to provide an income to meet the expenses of teaching. Some people would say the expenditure should be proportionate to the capital. But Mr. Chamberlain and the council believe that would not be a wise policy. They have accordingly appointed Messrs. Aston Webb & Ingress Bell to be their architects. In the first place, a general plan of the scientific schools of the University is to be prepared, which will show the lecture halls, museums, libraries, schoolrooms, laboratories and workshops that will all ultimately be required. Mr. Chamberlain gave a verbal anticipation of what the drawings will show, for he remarked:—"I know it is said that Englishmen have one defect, and that is a lack of imagination. I should not be accused of that when I say that I have constantly before me the vision of a stately pile rising on the land which has been so generously given to us, not indeed overloaded with ornament, but noble in its proportions, adequate and suited to the purposes for which it is intended. I see it surrounded by its associated buildings, all specialised for the particular branches of knowledge or training to which they are to be devoted, forming as a whole a complete and perfect home for scientific training and scientific research." Birmingham has accomplished so much in education there can be little doubt that the view which Messrs. Aston Webb & Ingress Bell will prepare will incite the citizens to further efforts of liberality.

As the brother of an engineer, the Recorder of Dublin should know at what rate professional fees are determined. Not long since he assessed the value of a Dublin physician's service by the scale employed for general practitioners in London. Recently he tried a case in which Mr. Albert Murray, who is one of the best known of Dublin architects, sought to recover 15*l.* 15*s.* from a client. The sum will appear absurdly moderate when it is known that Mr. Murray had to visit a site in the suburbs of Dublin on which six houses were to be built, and spent half a day in examining it; then he made sketches, and plans were prepared from them in his office. The grateful client lodged five guineas in Court, and the Recorder thought the sum was adequate. When Sir Frederick Falkiner was a newspaper writer he must have been rewarded for his articles on a higher scale. Mr. Murray appealed. The client said that instead of being half a day Mr. Murray was not more than half an hour on the site, and that he only received a sketch which was useless, and he did not adopt it. It is not necessary to say architects were found to declare that five guineas was a reasonable reward for the works that were done. The judge who heard the appeal maintained that the fee should have been ten guineas; but as he declined to allow the cost of the appeal, it cannot be said that Mr. Murray has gained much by seeking justice in a higher court.

The case is a strange commentary on the statement of Sir Thomas Drew when advocating the formation of a branch of the Royal Institute of Architects, Ireland, in Belfast. According to him, when he first went to Dublin instead of the proper percentage being paid to architects, half, and sometimes less, was paid, but since that time the old system had died out, and now the architects were working together on terms of the most perfect harmony and understanding. There was no architect who was in any difficulty, but the other members of his profession came around him and supported him. We should like to know if Mr. Murray would endorse that statement? In Belfast there is, however, less uniformity of fees than in Dublin. In fact, the cutting-out principle is recognised by all, and it must be a very remarkable association that will bring about a change.

We lately referred to the law proceedings which were taken in Paris against the curé of the parish of St. Peter, Montmartre. He had nearly completed a church in "ciment armé" to replace the ancient building which was declared to be in an unsafe condition, but which will be restored at the expense of the Municipality of Paris as an historic monument. The curé was fined a few francs, but it was decreed that the building was to be removed because the plans had not received official approval and the material was supposed to be unsafe. The latter conclusion was hardly within the province of an inferior court. The effect of it would be to retard the more general use of a material which has many advantages, economy being one of them. The curé appealed. Taking advantage of the recent amnesty the Government decided that the fine should be remitted, and as the agent has been let off, it followed the building has been allowed to remain. It will therefore be possible to observe the effect of time upon the church, and to draw conclusions about the enduring qualities of "ciment armé."

A report has been presented describing the system employed in waterproofing the basement of the Government printing office at Washington. The soil is sandy and porous, and ground water is abundant. New drains and damp courses were put in and the walls were lined with plates of Neuchâtel asphalte, brought to a proper consistency by the addition of minute quantities of bitumen and Trinidad asphalte, and a large dose of very fine gravel. On horizontal surfaces it is simply spread hot to a thickness of about a quarter-inch. For application to vertical surfaces it is first moulded into plates on a burlap backing, crushed slag is sprinkled over it and bedded to about half its depth in the hot asphalte. The surface of the wall is plastered with Portland cement mortar, and while this is still soft the asphalte plates, which have been allowed to cool, are pressed up against the wall so as to bed the projecting particles of slag in the plaster. The plates are held against the wall by suitable braces until the plaster has set hard. The braces are then removed, the burlap stripped off, and the joints between the plates are closed by heating with a painter's hand furnace and smearing with a hot asphalte mixture, which makes the entire surface continuous. Neuchâtel asphalte was used because of its well-known durability in the presence of moisture, and because the mixture of asphalte and gravel could be made sufficiently hard to cover the foundations without squeezing out under the weight of the superstructure, as coal-tar or similar compounds would do. The waterproofing appears to be a success, but the contractors were required, however, to guarantee it for five years.

REFORM OF PROCEDURE IN ANCIENT LIGHT CASES.

FOR some time past a committee representing the Royal Institute of British Architects and the Surveyors' Institution has been considering the subject of "Ancient Lights," with the object of suggesting some alteration in the procedure usually adopted in cases relating to the subject. The members were Professor T. ROGER SMITH, E. A. GRUNING, J. DOUGLASS MATHEWS, J. FLETCHER MOULTON, Q.C., for the Institute; H. T. STEWARD, ALEXANDER R STENNING, H. CHATFEILD CLARKE and GEORGE M. FREEMAN, Q.C., for the Institution. It is needless to say the inquiry is of the utmost importance, not only to architects and builders, but to their clients, as well as to all who possess house property.

One of the mathematicians who took part in the first French Revolution calculated the area of the globe's surface, and assigned the quantity of it which by the rights of man belonged to every French subject. Many good people in other countries thought there was something impious in claiming possession of a part of a sphere when men have only a temporary existence upon it. But, after all, the Frenchman's deductions were little more than the expression in another form of the old Roman maxim, "Cujus est solum, ejus est usque ad cœlum et ad inferos;" that is to say, ownership of the ground extends in a legal sense to the heavens above and the earth beneath. In most countries a similar theory is adopted. If rights were, however, limited to very high and very deep planes along the boundaries of a site there could be little or no litigation over light and air. But the possession of property has been allowed to bring with it certain privileges which more or less diminish the value of the privacy or full enjoyment of one or several contiguous properties. In England we call those curious privileges "easements." Practically they arose from an excess of worldly skill or foresight, and are an illustration of the power of the stronger over the weaker. But in France and elsewhere they are known by the more significant term "servitudes." According to the French Code, a servitude is a charge imposed upon one property for the utility of a property belonging to another proprietor. The words are applicable to our easements. When easements have been acquired by grant or purchase nothing can be said against their equity. But when, as generally happens, they are derived from the passivity of a neighbour they can only be regarded as surreptitiously acquired. Indeed, it shows the good temper of English people when we find that endeavours to prevent the creation of easements have not been more general. A man opens a window which overlooks the property of another. In course of time—that is to say, in twenty years—the window becomes a privileged opening. Yet it would have been easy at first to have intercepted the view, and in that way have secured that the window would not be an obstacle to any future arrangement of the land which it overlooked

So long as the view was across wide plains a window might not be much of a grievance. But in dealing with building sites in towns the case is different. When one hears of a large public building remaining incomplete until, after the law's delay, the amount of damages claimed by the owner of some insignificant house is settled, or when we are told of the business of a great establishment being jeopardised on the same account, then the relations between the dominant and servient tenements become ridiculous. They are more, for they can be mischievous, especially when it is known that the bringing of actions for damages has been made a trade, and one that is affirmed to be profitable.

It is only in England that roundabout and costly processes arising out of easements of light and air are tolerated. In Scotland, where the influence of Roman law is still active, the procedure is simpler and more economical, and in Paris the Courts are disposed to look askance on claims which are not supported by evidence respecting grants. Alterations in the character of windows are also considered to make a difference in the circumstances of a claim. On that account, if the case TAPLING *v.* JONES could have been brought by appeal to the French Courts, it is very probable that the plaintiff and not the defendant would have succeeded. The English Lord Chancellor who presided at the final hearing declared that the opening of new windows is an innocent act, and cannot destroy the right of one party or give an enlarged right to the other. But how could it be supposed that, as in that case, the new windows, assuming them to be larger or differently placed to their predecessors, became at once ancient lights and acquired the rights allowed under the Prescription Act?

The conditions of life in the business parts of the Metropolis and other large towns make it necessary that trivial impediments to progress should not be magnified by the Courts until they appear to have momentous gravity. A century ago Lord HARDWICKE believed he was justified in saying that the rendering of a prospect less pleasant is no reason for hindering a man from building on his own property. Later judges have manifested a disposition to overthrow mountains that were made out of molehills. The passing of the Judicature Act, by means of which an injunction is not granted immediately on application, is sufficient to prove that in the Legislature as in the Courts there is a conviction that light and air cases often have only a factitious foundation. If houses are to be enlarged, in many places it can only be by additions to the height. Then there is the expense, which cannot be avoided, with a large number of professional witnesses. The late Vice-Chancellor MALINS, when in a querulous mood, which was a common occurrence, used to say that no credit was to be attached to the architects and surveyors on either side, and if possible he preferred to visit the premises which were the subject of a claim, and ascertain with his own eyes the extent of the injury which had been caused. Since his time the expenses appear to have increased.

The report of the committee suggests a course by which the investigation of disputes about ancient lights could be conducted expeditiously and at a less costly rate than at present. In the first place, much would be gained by the proposal to look upon light for all ordinary purposes as sufficient, and by leaving out of the question light of an extraordinary amount for special purposes on which so many claims are based. That proposal appears to be in keeping with the spirit of the Courts. Then the number of actions can be reduced. The owners of servient tenements, or rather of premises which may become servient, can serve upon the owner of a dominant tenement such a notice as shall be prescribed by the Act, and which would have the same effect as an "interruption" for one year under the Act of 2 & 3 Will. 4, c. 71, when claims for dominant rights cannot be made. It is now very difficult to prove the arrangement of the lights of a building when it has been removed. The committee recommend that if plans, sections and elevations of a building are taken before demolition, and if they are attested by the district surveyor in London or by the county or borough surveyor elsewhere, they shall be accepted as legal evidence. After January 1, 1905, no building is to acquire "any fresh rights of light or air where it abuts on any street, highway, road, court or alley used by the public, or as an access to various tenements, either held in the same ownership or in various ownerships." In that way public interests will not be sacrificed.

We now come to the procedure in case of interference with ancient lights. An owner, lessee or occupier who believes there will be interference by erection or alteration of neighbouring premises has the right to inspect the drawings of the premises in question. If there are no drawings he has then the right to obtain information of what is contemplated in order to enable him to ascertain whether there be ground for complaint. Should he decide that there is ground, then within seven days of obtaining the information he is to give notice of his objection to the building owner, and to furnish the name and address of a surveyor who is to act on his behalf. Within a week of the receipt of the objection he is to be furnished with the name and address of the surveyor who is to act on behalf of the building owner. The two surveyors within ten days are to agree upon an umpire, who is to be a member of the Royal Institute of British Architects or of the Surveyors' Institution. Then within ten days they are to discuss the points raised, and if they cannot arrive at a settlement the matter is to be referred to the umpire. The latter within twenty-one days is to issue his award, in which he is to determine the following points:—"The right of the building owner to carry out his intended works: the alteration (if any) necessary to be made in carrying out the proposed new buildings or alterations to prevent or lessen the obstructions complained of; and the amount (if any) of compensation of every description to be made to the owner, lessee or occupier; the alterations or improvements to the adjoining premises by light-reflecting surfaces, enlargement of lights, heightening of premises or other means; the amount of costs to be paid by each or either party, and generally all matters required to arrive at a settlement."

If one of the parties neglect to appoint a surveyor, or if the umpire will not act, then either party can apply to the Institute or the Institution to supply an umpire forthwith with all the powers described. If either party should be dissatisfied with the umpire's decision, he may appeal to a committee that is to be appointed annually. It will consist of three architects to be appointed by the Royal Institute of British Architects, three surveyors to be appointed by the Surveyors' Institution, and three barristers to be appointed by the Home Office. Three members, of whom one shall be an architect, one a surveyor and one a barrister, shall form a quorum. Before giving a decision the appeal committee are to visit the premises and consider to what extent the proposed buildings are to be amended, or the dominant premises altered. The decision of the committee is to be final, except in cases when a larger sum than 500*l.* is awarded, or the works proposed exceed 500*l.* in value, when either party can within a month bring the matter before the High Court. If an action is brought to restrain building either party may apply to a judge to hear the case, with an assessor or assessors. Should the judge consider the application for an injunction was unreasonable or unnecessary, the party bringing the action may be ordered to pay expenses and costs on such a scale as may be deemed fit.

The committee ask to be authorised to expend money on the drafting of a Bill to carry out their recommendations, and the Royal Institute of British Architects and the Surveyors' Institution will not, we hope, hesitate to make the necessary provision of funds in order to obtain the desired amendment of the law. By right the Government should introduce such a Bill, for what is desired is not for the benefit of architects and surveyors so much as for the public in general. Although surveyors appear to have the principal part in the administration of the measure, it may be doubted whether the profit to them will be in excess of what can be derived under the present mode of dealing with light and air cases. It will be observed that in the various stages of procedure the time is fixed. It will therefore be the fault of the parties if a conclusion is not arrived at within a short period. The two surveyors have power to come to a settlement without calling in the umpire. Or afterwards the three can arrive at an award without having recourse to the appeal committee. Everyone who has had to do with light and air cases is aware that one or both of the parties may be inspired by a passion similar to that which animated Dandie Dinmont and Jock o'Dawston Cleugh in their contest over a point which was of no financial value, but which was supposed, after the luxury of a lawsuit, to insure that the victorious party would be better thought of by his acquaintances. Expenses can be increased by the exercise of some ingenuity under the proposed procedure, but the majority of those who care little about reputation acquired as litigants will be glad to have disputes settled without ostentation. Business men in the Metropolis and large towns will therefore look upon the proposals of the committee as a step in law reform which is likely to lead to many advantages.

A Deputation has waited on the improvement committee of the Manchester City Council respecting the Hanging Bridge. A sketch plan was presented of a building which, if carried out, will combine the preservation of the bridge with the utilisation of the site for business purposes. The design shows an old-fashioned building something after the style of The Row at Chester. The ground floor would give free access to the bridge and the basement would be used as a café, while the upper part would be devoted to business purposes. The improvement committee promised to give their consideration to the new proposal.

ARCHITECTURAL POTTERY.*

According to M. Formigé, an architect whose position in Paris is generally known, M. Lefèvre's book appears at a time when it is peculiarly needed. The reason he gives for his belief will be thought remarkable in England and in every country where stone abounds. M. Formigé, who refers, of course, to France alone, says that "natural building materials such as wood and stone already show signs of exhaustion in those districts where they formerly existed in abundance. The rapid exhaustion of quarries from which we have drawn for years obliges us to get supplies from greater and greater distances, and so to raise inordinately the price of building stones. We can only replace them by recalling to our aid artificial materials such as iron, brick, terra-cotta, cement, &c." Then he goes on to say:—"Besides the artistic effect given by the use of terra-cotta materials, and due to their preparation and colour, cheapness is undoubtedly a strong argument in their favour. The resource of the future, then, is incontestably a judicious use of pottery. But we must not content ourselves with copying ancient objects; we must adapt the shapes and decoration of terra-cotta materials to the requirements and taste of our own period. For that purpose it will be necessary to thoroughly understand the infinite resources which pottery offers to builders." Although several varieties of pottery are employed in France, an English visitor is not likely to conclude that manufactured clay is more largely made use of in France than in England. The vast number of engravings of various kinds of machines and appliances given by M. Lefèvre will, however, give rise to the thought that whatever may be the extent of the trade at the present time, Frenchmen are showing great energy in their efforts to raise that class of work to the highest perfection attainable by a combination of art and science.

The book is addressed to producers rather than to users of bricks, terra-cotta, tiles, &c. It is possible that an English manufacturer would not agree with all that is recommended. But amidst so many different machines as are represented in the pages it is probable that some would be discovered which might become suitable on English works. The results of French experience which are described may also occasionally be helpful. In fact, the book affords evidence of the struggle that is taking place in one department to uphold the reputation of France and to prove that foreign imports are unnecessary. It is true English and German machines are employed, but the majority of those introduced in the illustrations are of French invention.

The book is divided into two parts. The first treats of plain undecorated pottery, and describes the preparation of clay and the manufacture of bricks, tiles, pipes, "quarries" (square flooring or wall tiles), and terra-cotta. The second part deals with the decoration of pottery, glazed and enamelled bricks or tiles, decorated quarries, architectural decorated pottery and sanitary pottery. The author does not set much value on English buildings in which these materials are used. He speaks with admiration of what is being done in Germany, Belgium, Holland, Spain and North America, as well as France. But in referring to England he writes:—

> Baked clay under all forms and colours is here used almost exclusively; London, we may say, is built entirely of brick, but it is not embellished thereby, for the modern secret of brick architecture does not seem to be yet discovered in England. Many Renaissance imitations are built, and still more commonplace repetitions, but no stamp of originality or beauty is found on the modern brick building. We must, however, specially mention the new Natural History Museum in London, a vast construction entirely built of stone-coloured brick, which is left uncovered both inside and outside. The general effect is most imposing.

M. Lefèvre cannot have given much attention to the important buildings of brick and terra-cotta which have recently been erected throughout Great Britain, or like so many of his countrymen he was unable to be impartial when judging of English work. However, justice has been done to the use of baked clay by modern English architects in the books of so many foreign critics, we can well dispense with the praise of Frenchmen.

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* *Architectural Pottery.* By Leon Lefèvre. Translated from the French by K. H. Bird, M.A., and W. Moore Binns. London: Scott, Greenwood & Co.

Although the French have not as yet entered with spirit into the use of terra-cotta in buildings, they have devised an official method of testing the material. The points to be observed are its structure or homogeneousness, as tested by the naked eye or a magnifying glass ; the apparent density, absolute or relative porosity, resistance to frost, &c., resistance to rupture by crushing, by flexion, by shock, by internal pressure in pipes, and resistance to wear by friction. Chemical tests are employed to determine whether lime or magnesium caustic exists, and also the proportion of soluble salts. The late M. Paul Sedille, who favoured the material, was not satisfied with the manner in which some varieties of it were used by his countrymen. In a letter to M. Lœbnitz he says :—

> If reliable ceramists could guarantee us to-day perfect pieces, that would not be enough. We must also know how to use them, mingle them skilfully with other materials, and, above all, combine in one harmonious gamut the powerful colourings of enamels. There lies the difficulty of this modern assemblage of many colours, which should, by entrancing his eyes, convince the most obstinate of its beauties. I have many times tried to say all that I felt on this question, and how enamels should be used. I do not propose to revert to this here ; I merely urge that the poor use sometimes made of enamels should not discourage us from benefiting by the infinite resources and marvellous results which may be expected from them.

The words of M. Sedille suggest why there is hesitation in using coloured pottery in France. Coloured materials may be in excess or placed in positions where they do not combine to express harmonious effects. That may arise from faults among the architects, but it is also true that French manufacturers have produced enamels, mosaics, tiles, &c., which are disagreeable in colour and which no arrangement can remedy.

The French are variable by temperament, and the effect is seen in the production of enamelled and encaustic tiles as well as in politics. M. Lefêvre is of opinion that while the English are able to manufacture an immense number of tiles of the same pattern, and therefore at a low price, in France there must be frequent changes, and consequently the tiles have to be expensive, otherwise the production would not repay the outlay. He adds :—"It would be impossible to mention all the important houses making encrusted quarries in England. Among the best known are Messrs. Carter & Co., Doulton & Co., Maw & Co., Minton, Hollins & Co., Woolliscroft & Son, &c. All of them produce pieces which are excellent both in quality and ornamentation."

In sanitary pottery it would appear from M. Lefêvre's book that the French have not as many varieties of apparatus as are to be found in England. That in one sense is fortunate, for it enables English manufacturers like Messrs. Doulton to hold a commanding position in Paris. Indeed, in no section of the volume can we find evidence of any advance on what is obtainable in England. With many people admiration of French work is carried to excess, but we doubt if they would hold that in architectural pottery we have anything to learn from our neighbours on the other side of the Channel. As we have said, the ample descriptions in M. Lefêvre's book of machinery and processes may perhaps be useful in suggesting improvements which will be more complete and serviceable to producers. The book is carefully printed, and contains nearly a thousand illustrations, which greatly vary in merit.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute was held on Monday evening last, Mr. William Emerson, president, in the chair.

The Hon. Secretary announced the decease of Mr. John Burnet, of Glasgow, who was elected Fellow in 1876.

The first business related to the prizes and studentships.

It was announced that three essays on the "Comparative Desirability of the Formal or Irregular Treatment of Street Architecture in Large Cities" were received by the Council of the Institute for the silver medal. The Council awarded the silver medal and 25 guineas to the author of the essay bearing the motto "Modus in Rebus," Arthur Maryon Watson, 9 Nottingham Place, W., and a certificate of honourable mention to the author of the essay bearing the motto "Per Ardua," William Curtis Green, 63 Bedford Gardens, Campden Hill, W.

Eight sets of drawings of the following buildings were sent in for the measured drawings medal and 10*l.* 10*s* :—(1) St. John's Church, Westminster ; (2) Burghley House, near Stamford ; (3) Walpole St. Peter's, Norfolk ; (4) Holy Trinity Church, Hull ; (5) church of St. Magnus, Fish Street Hill ; (6) Guildhall, Exeter ; (7) Kirby Hall, Northants ; (8) Stoke Priory Church.

The prize was awarded for Kirby Hall ("Stafford Knot") to Lawrence L. Bright, 3 Villa Road, Nottingham, and medals of merit and 5 guineas each for St. John's Church, Westminster, to Wyatt Papworth, 10 Park Place Villas, Maida Hill, W., and for Burghley House to Henry Francis Traylen, 15 Broad Street, Stamford.

Twenty-two designs for a club house in a large city were submitted for the Soane Medallion and 100*l* The Council were unable to award the Soane Medallion, but voted sums of 30 guineas each to Matthew James Dawson, 37 Ossington Street, Bayswater, W. ; H. Munro Cautley, The Rectory, Westerfield, Ipswich ; and J. B. Fulton, 10 Rothwell Street, London, N.W.

Six applications were received for the Owen Jones Studentship from the following gentlemen :—(1) E. Bennett, (2) D T. Fyfe, (3) James McLachlan, (4) Percy E. Nobbs, (5) Hervey Rutherford, (6) Ramsay Traquair. The certificate and 100*l.* have been awarded to Mr. J. Hervey Rutherford, 7 Dalrymple Crescent, Edinburgh ; medals of merit to Mr. Percy E. Nobbs, M.A , 49 Queen Street, Edinburgh, and Mr. Ramsay Traquair, 8 Dean Park Crescent, Edinburgh ; and a certificate of honourable mention to Mr. Edward H. Bennett, 18 Rue Bonaparte, Paris.

Nine applications were received for the Pugin Studentship from the following gentlemen:—(1) H. Comyn, (2) James C. Cook, (3) Henry W. Cotman, (4) Shirley Harrison, (5) Frederic J. Horth, (6) C. B. Pearson, (7) Harry Phibbs, (8) A. J. Pitcher, (9) J. Forbes-Smith. The medal and 40*l.* went to Mr. Henry W. Cotman, 133 Amesbury Avenue, Streatham Hill, S.W.; a medal of merit to Mr. J. Forbes-Smith, 3 Hope Park Terrace, Edinburgh; and a certificate of honourable mention to Mr. A. J. Pitcher, Sebright Avenue, London Road, Worcester.

Only one application was received for the Godwin bursary from the following gentleman:—Samuel C. Stephens, Birmingham The Council have decided not to award the Godwin bursary this year.

Twenty-six designs for an entrance gateway to a public park were submitted for the Tite certificate and 30*l.* The certificate and 30*l.* have been awarded to William Fairbairn, 9 Spence Street, Edinburgh ; a prize of 10 guineas to Ralph Knott, 66 Oakley Street, Chelsea ; and a certificate of honourable mention to William Arthur Mellon. For the Grissell medal and 10*l.* 10*s.* eighteen designs for a timber footbridge across a stream were submitted. The Council awarded the medal and 10 guineas to Edwin Forbes, 17 Buckingham Street, Strand, W.C. The Ashpitel prize, 1900, has been awarded to Mr. Shirley Harrison, of Leicester. The Council have further awarded extra prizes to Mr. C. H. F. Comyn and Mr. C E. Varndell.

Mr. J. J. Stevenson then read a paper on

Difficulties and Hindrances in Producing Good Modern Architecture.

Mr. Stevenson said that the difficulties besetting modern architects were due to the conditions of modern life as compared with those of former times. The hindrances were the laws and regulations which restrict practice and the natural development of building. Traditional architecture did not cease with the new life of the Renaissance, and though the Mediæval styles lived on, the new architecture soon became a custom and tradition which every workman knew and could carry out without drawings from an architect It is only in the last two or three generations that architecture has emancipated itself from tradition, that builders and architects, instead of conforming to established custom, have followed their own fancies and have done what was right in their own eyes, every man being a law to himself. Instead of the few whose force of genius broke through tradition and made an advance in the style, each architect and builder now thinks he must be original, and as original genius is scarce, so are good buildings. The best hope for new architecture is a thorough knowledge of the old, not a superficial acquaintance with many different styles. The style must be assimilated so that the architect can think in it and use it as he does in his native tongue.

It might be thought that competitions with an architect of standing as assessor or as judge would secure good architecture by criticism and selection of the best designs. But the result has not justified the hope, and there is now a tendency to abandon the system. In a competition the architect works in the dark ; he has to guess what is wanted, and no information the assessor can give in his instructions to competitors can adequately supply it. Architects whose local standing might have entitled them to be appointed for the work, who possibly know more of the conditions and requirements than the assessor, hesitate to be judged by their drawings alone in competition with some young unknown architect from a distance who, if he is successful, has no character to maintain in the district. Sometimes the assessor is one whom architects may fairly decline to be judged by. They may know that he does not understand their art, and his instructions may show that he is ignorant of the requirements. In these he takes a power of decision more absolute than judges in law cases ever claim; they decide only after hearing both sides of the case, and they give reasons for their judgment. But the assessor hears no pleadings and gives no reasons for his judgment. Might not his proceedings be in some degree assimilated to those customary in law cases? The competitors, having studied for months the problems involved, would be able to point out to him how far their plans had solved them, and where their opponents had failed. It is possible that, however fair and able, the assessor may have missed them. They should not be condemned unheard. As to the objection that the assessor would thus know who the competitors were, and might be influenced to give the award to a favourite or a friend, such a suspicion amounts to a libel on the assessor's character. It would be more dignified for the assessor to declare himself incapable of such action by making the decision, knowing who the authors were. It might prevent his overlooking merits in the plans of architects whose character and reputation and the work they had done are a guarantee that they could be trusted to carry out the work. By refusing to know the competitors, the assessor neglects what is a far more important consideration in the selection of an architect than making competition drawings. The faculty of winning competitions is often not a gift of the best architects. The selection of the assessor is the most important factor for the fairness of a competition. Why should not the competitors appoint him by their votes? It would give a better guarantee that they could trust him to understand and appreciate their designs, and if the majority appointed one whom they thought unlikely to do so, they would be able to withdraw before wasting their time and risking their reputation. There would be a better chance of just decision if there was more than one judge, as in important cases in the Law Courts. Opinions vary as to what constitutes good architecture; different views of what designs are best may honestly be held. A judge may see fit to alter his opinion on the representations of his colleagues. As regards the labour and money risked by competitors, there should be a stipulation that architects invited to compete should each be paid a sum towards their outlay. Competitions wisely conducted might advance the art and produce good buildings. They should be made such that other architects than those who usually gain them would not hesitate to engage in them; that work done as well as the accidents of competition drawings should be an element in decision; that the judges should have the confidence of the competitors for their appreciation of art in architecture in the various developments now prevalent.

In considering the hindrances in producing good architecture the author referred to the modern rules and regulations by which the designs of buildings are hampered and restricted. These have generally been devised by doctors and sanitary experts for excellent and necessary objects. But instead of availing themselves of the knowledge and experience of architects they devise crude and often tyrannical rules without adequate knowledge of building construction, and without thought as to the architectural appearance or the cost of their requirements. The London Building Act would have been a far more effective measure had the County Council arranged with a body of architects, such as the Institute, the provisions for insuring the necessary requirements, and the 20,000*l*. Parliamentary expenses would have been saved. The Local Government Board's Model By-laws ignored local modes of building, and reduced houses all over the country to a uniform level of dulness. The recent Police Act for Scotland, to insure ventilation, decreed that ground-floor ceilings should be 9 feet 6 inches high, and bedrooms 9 feet. But this did not insure ventilation; it rather provided space for vitiated air to accumulate. Such regulations spoiled cottage architecture, made buildings needlessly costly—indeed, prevented cottages being built. Equally foolish and costly is the regulation that every sleeping-room over 100 feet area should have a fireplace and flue, though it would probably never have a fire in it and would most likely be stopped up with a smoke-board. Why forbid half-timber construction? It is a most charming development of old English architecture, and houses so built have lasted for hundreds of years. It gives beauty to landscape, and the risk of fire is insignificant in isolated cottages. The precautions against fire are needlessly oppressive for low or isolated houses. Carrying the party-walls above the roofs in ranges of low houses spoils their appearance, and is unnecessary if the slates are bedded on the walls.

In some rural by-laws the needlessly tyrannical provision that all woodwork should be kept back 4½ inches from the face of the wall has been revived after it had been removed from the new London Act. Another needless regulation, showing ignorance of building construction, is that compelling footings to be put to walls besides concrete foundations, which are perfectly stable without them. In conclusion, the author urged the Institute to press upon the authorities the acceptance of by-laws insuring sanitation, ventilation, fire-prevention and stability, but drawn with common sense and knowledge of building, and which would not hamper and ruin architecture and cause needless cost.

Mr. William Woodward said he must confess that, having been a student of Mr. Stevenson for over a quarter of a century, he was somewhat disappointed with the paper they had heard. He had hoped it would be framed with the zest of the author's early days, but such was not the case. A large part of the paper was taken up with references to competitions and cheap criticism on distinguished men of the day. In conclusion, the speaker again said he was exceedingly disappointed in the paper, and it had not afforded him the slightest information. He could only hope that it would be of use to the younger members of the Institute.

Mr. Lacy W. Ridge proposed a vote of thanks to Mr. Stevenson for his excellent paper, and urged that representations should be made to the Local Government Board with a view to amending certain by-laws which were at present harmful and often unnecessary.

Mr. John Slater seconded the motion, which was supported by Messrs. Lewis Solomon, W. D. Caroë, Maurice B. Adams, E. W. Hudson, Aston Webb and the President.

CHAUCER'S LONDON.

HE who loves to follow Chaucer through the various scenes from which his mind received its first impressions will be eager to recollect what sort of a city London was in the beginning of the fourteenth century, how far it resembled and in what respects it differed from the present Metropolis of England. Little doubt can be entertained that if we were to judge of it from the first impression it was likely to make on a stranger, it would not have been found much more advantageous than that of Paris at the same era, which Petrarch describes (A.D. 1333) as "the most dirty and ill-smelling town he had ever visited, Avignon only excepted." Of this, however, we may be sure, that the impression that London produced on the mind of Chaucer was very different from that of Paris on the mind of Petrarch. The Italian poet viewed the cities of France with the prepossession of his countrymen and the haughtiness of a pedant, proud that he owed his birth to the country of Virgil and Cicero, of Brutus and Cato, and looking on the rest of the world as a people of barbarians. Chaucer had none of these prejudices; he felt the great dictates of nature, and cherished them with the fondness of attachment. London, with its narrow ways and dirty lanes, its streets encumbered with commerce, and its people vexed with the cares of gain, was in his eyes beautiful, lovely and engaging. "More kindly love and fuller appetite" had he "to that place than to any other in yerth." But though London had at this time very little to boast on the score of its general architecture, it was already the scene of considerable population and wealth. The topographer who would attain to an exact idea of any of our principal towns at a remote period of their history must go back, in the first place, to the consideration of what they were in the time of the Roman empire. For near four centuries—from the year of Christ 50 to the year 450—Britain was a flourishing and powerful colony to the great mistress of the world. The Romans, in proportion as they subdued her barbarous inhabitants, founded cities, erected theatres, established universities, constructed highways and adorned the island with magnificent works of art, as well as planted within its circuit the seeds of discipline, science and literature. England was then a civilised and magnificent scene, and would have presented as many objects worthy of the curiosity of a traveller of taste as at any period of its subsequent history. London was founded by the Romans and enclosed with a wall nearly equal in extent to the boundaries of the present City of London strictly so-called. Its limits were from about the foot of Blackfriars Bridge west, to the Tower Stairs east; on the north it extended to the street now denominated London Wall, and on the south it had another wall, which skirted the whole length of the city along the shores of the river. In that melancholy period when the Roman empire in the West became universally a prey to the hordes of ferocious barbarians, England fell to the lot of certain piratical tribes from the north of Germany, since known by the general denomination of Anglo-Saxons. These invaders were successful in exterminating among us all vestiges of literature and Roman civilisation. The Christian religion itself sunk under their hostility. The institutions of the ancient Germans and the mythology of Woden became universal. At the time when the monk St. Augustine arrived in this country for the pious purpose of converting its usurpers, A.D. 596, it has been supposed that there was not a book to be found throughout the whole extent of the island. From this time, however, there was a period of comparative illumination. The Saxons had poetry, and the missionaries from Rome brought with them such literature as Europe then had to boast. We had our Bede, our Alcuin, and our Alfred. This infancy of improvement was nearly crushed by the Danes, the inveterate foes of monasteries and learning, who were in the tenth century what the Saxons had already been in the sixth. England presents little to soothe the eye of the lover of civilisation from the retreat of the Romans to the epoch of the Norman Conquest, when a race of warriors educated in a happier scene and a succession of kings nearly all of distinguished ability brought back to us the abode of the Muses and the arts of cultivated life. During this interval London, the heart of England, had experienced a common fate with the rest of its members. The walls, indeed, in a considerable part remained, but the houses tumbled into ruin, and the tall grass waved in the streets; not that it was ever wholly unpeopled, but that it was an inconsiderable place in comparison of the dimensions which the Romans had marked out for it. A short time, however, previously to the Conquest it had a bridge of wood erected over the Thames, a work which would scarcely have been constructed in those rude times if it had not even then been a flourishing city. The Tower of London was constructed for the purpose of subjugation by William the Conqueror. William Rufus, who had a strong passion for magnificence, enlarged this edifice, rebuilt London Bridge on a more commodious plan, and laid the foundation of Westminster Hall. London Bridge was first built of stone under Henry II. Edward the Confessor, who a short time before the Conquest imported some of the Norman arts into Britain, first gave existence to the city of Westminster, having built there the old palace, and the venerable structure known by the name of Westminster Abbey. London also in the time of Chaucer contained several royal palaces. The Tower was long a principal residence of our kings, beside which they had a smaller mansion very near it, called the Royal; a second, south of St. Paul's, called the Wardrobe, and a third nearly on the site of the present Bridewell. This city was besides adorned with various monasteries, the chief of which were the Temple, which had lately been the residence of the Knights Templars, but was now in the occupation of the students-at-law, and the monastery of St. John, belonging to the Knights Hospitallers of St. John of Jerusalem, a gate of which is remaining to this day. It had many other buildings which, relatively to the times we are considering, might be styled magnificent.

RENAISSANCE ART.

IN continuing his lectures at the Royal Academy, Mr. Prinsep said an artist was the product of his age; Phidias was one example and Watteau another. To understand the men of the Renaissance, it was necessary to know something of their surroundings and of the social and political life of the period. Mr. Prinsep gave a general sketch of the condition of Italy when she produced her famous painters. He took as types Raphael, Michel Angelo and Titian; there were many other great ones, but he could do little more than mention their names. In the painting of this time there were no traditions; it burst forth untrammelled by the past; each great artist worked on his own lines, he had nothing with which to compare himself. Michel Angelo had been described as the embodiment of the Renaissance. No artist before him had possessed such wonderful anatomical knowledge and the power of drawing a figure in any position, however foreshortened; and it was for this rather than for his Dantesque power and grandeur that his contemporaries seem to have admired him. But the artist's "Last Judgment" seemed to be a bigoted view of an awful event, in spite of its power, and in this picture could be traced the influence of the Laocoon, an example of a debased period of Greek art, the discovery of which had caused a great sensation among the Italian artists. Michel Angelo was really a sculptor who painted, and he never mastered the art of painting in oil, though he professed to despise it. Outwardly he was a bitter and a solitary man who could brook no rival near his throne, and who was jealous of Raphael. Yet he could be kind to his friends, and he had one romance in his lonely life—his attachment to Vittoria Colonna. The kiss he gave her hand when she lay on her death-bed was possibly the only one he ever bestowed on a woman.

The character of Michel Angelo, said Mr. Prinsep, was in singular contrast to that of Raphael, whose sweet and gracious nature brought into harmony every one who came into his presence. He never felt the pang of jealousy, and his reputation had suffered through his kindness to the assistants who carried out his designs, for he was too good-natured to correct their errors when he saw them. As a fine example of his work in England, the portrait of Pope Julius in the National Gallery was referred to—in every quality it seemed to excel. When Michel Angelo saw a picture of Titian's for the first time, he was reported to have said that if the Venetians had studied drawing they might have been superior to all painters. Yet no one really understood drawing better than Titian, but his knowledge was properly and naturally concealed. His aims, however, were probably quite unintelligible to the great painter-sculptor. After referring to some of Titian's masterpieces abroad, Mr. Prinsep eulogised the National Gallery "Bacchus and Ariadne;" no picture was fuller of luscious colour and joy of feeling, and the execution was supero beyond words. The Venetian school, of which Titian was the head, grew up independently of all others in Italy. Venetian painting was from the first joyous and sensuous—the black shadow could not live in that golden light.

Art in Italy soon became a feeble imitation, and lost all its vitality. The great painters had to be sought among the men of other nations. After eulogising Van Eyck and Dürer, the lecturer passed to Holbein, an artist who should be endeared to us, for he lived a long time in England, and died in this country. He was a marvellous draughtsman, and his outline was so exquisite that the imagination of the spectator seemed to supply the subtlety of modelling. Holbein had the infinite tact of omission—his work showed what drawing can do for a man. But painting, as we nowadays understood it, was introduced to the North of Europe by Rubens, who still remained the Fleming in spite of the influence of his Italian training. The methods of Rubens were simple, and his work was easily recognised; its peculiar vitality was never equalled, even by Velasquez. Even greater than the reputation of Rubens was that of his pupil, Vandyke, the prince of portrait-painters, as he had been called. No one ever painted more splendid gentlemen, more gracious ladies, and we English ought to be proud of our ancestors when we look at his portraits of the men and women of Charles I.'s time.

From Spain was to come the artist who, perhaps, more than any other man had influenced modern painters Velasquez was the intimate friend of Philip IV., and no king had ever been more immortalised by painter. Philip and his two queens, and his lords and ladies, painted in a more lifelike fashion than portraits were ever painted before, still hung on the walls of the Spanish palaces. The story was related of the king's mistaking the portrait (now in the National Gallery) of Admiral Pulido-Pareja for the admiral himself. But the lecturer held that deception was not true art, or the peepshow and the panorama would excel. And of all men, Velasquez knew exactly when to leave his realism, and to allow imagination full play. In his pictures there was no trace of foreign influence. He invented tone as we understood it, and no man before ever had such a mastery of the brush. Yet at the beginning of the century Murillo, whose mawkish sentimentality appealed to the public rather than to the painter, had a greater reputation than Velasquez. Mr. Prinsep touched on the French painters of the same period, and then turned to the great genius who arose in Holland, Rembrandt van Rhyn. He and Velasquez were the two artists who owed least to the work of other men; both went straight to nature. Watteau's work was typical of its artificial time—like a beautiful dream; but nothing of its kind was better conceived and better executed. Two years after Watteau's death Reynolds was born.

GLASGOW PHILOSOPHICAL SOCIETY.

A MEETING of the architectural section of the Glasgow Philosophical Society was held last week in the rooms, Bath Street, Glasgow. Mr. Horn, one of the vice-presidents, occupied the chair. Mr. Stephen Adam read a paper on "Bernard Palissy, Potter and Politician." Palissy, he said, learned what he could with his father, who was a glass-worker and a glass-stainer, but he acquired a great deal more knowledge by reflecting on what he saw in the sweet environment of his early home. Some German writers asserted that he was a pupil of a Nuremberg potter, but in contradiction of this statement none of Palissy's famous white enamel was found in German faïence of his period. Those vessels of intermixed colours after the manner of Jasper, the early examples especially, were his most interesting works from an artistic standpoint. He never produced anything finer than his first faïence, covered with his pure and deeply toned enamel. His rustic basins, very natural and very beautiful as they were, attracted attention, but the reptiles and fishes on beds of moss with which they were decorated were too directly imitative to come under the category of decorative art. Palissy was born poor, but some writers asserted that he came of noble stock. He himself believed that he was a scion of one of the innumerable families of petty nobles, and, writing in his later years, he took rather a pessimistic view of the position of workers in glass. Though the occupation was noble, he said, and though the men engaged in it were nobles, they would gladly be plebeians and possess the wherewithal to pay the taxes.

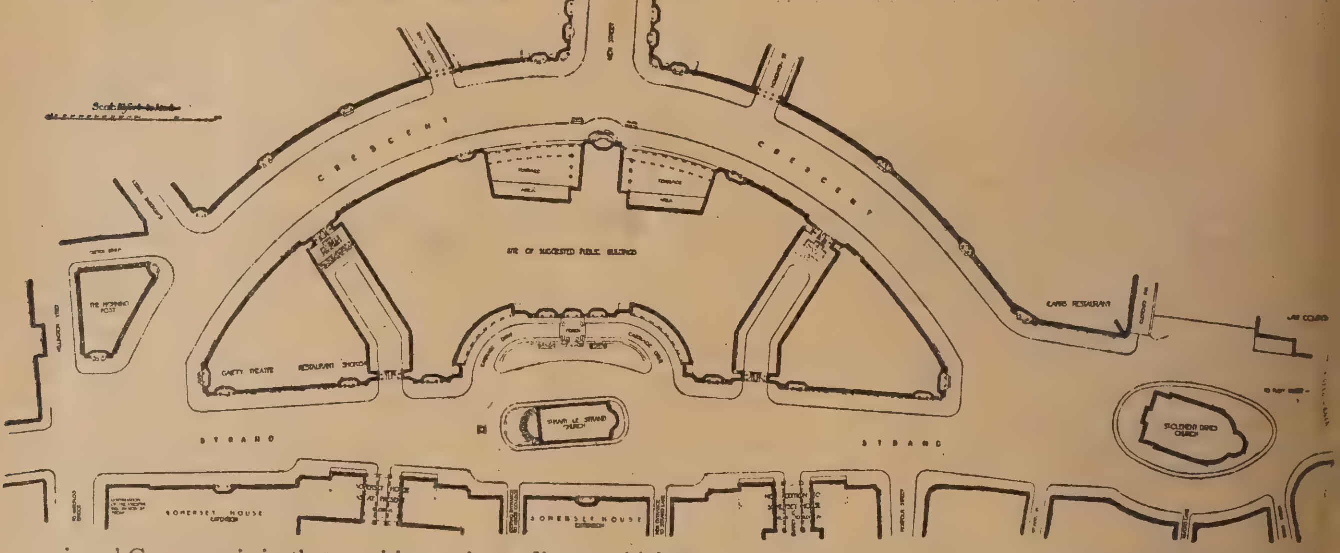
NOTES AND COMMENTS.

If any danger through fire were to arise in the Louvre the loss would be felt by the whole civilised world, and future generations would be poorer if one of the masterpieces was destroyed. In recent years the risks have been increased by the use of some of the contiguous buildings to accommodate groups of the officials of the Government departments. From time to time remonstrances have been addressed to the Government on the subject. But the difficulty lies in finding places which can be used for public offices within a reasonable distance of the Chamber of Deputies. If the offices were confined to routine work it might be possible to take precautions, but when an immense baggage of documents, the products of generations of clerks, have to be also stored the risks are increased. The Minister of Public Instruction and Fine Arts, as a concession, ordered the construction of a wall between the Louvre and the pavilion that is a survival of the Tuileries. That was found to be insufficient. It has now been decided to evict the Minister of the Colonies and to transfer his offices to the Palais Royal. By this decisive act the possibility of a conflagration has been minimised and the paintings and sculpture of the Louvre will be as safe as they were a dozen years ago.

Among a great many honest but simple people the belief still prevails that painting and sculpture are the only fine arts, music being occasionally "lugged in" to give an opportunity when there is a dinner for singing a ballad or playing a *morceau* on the piano. The Master of the Cordwainers' Company is in that position. At a dinner which was given in the hall of the Guild last week the Master made some remarkable statements. First, he asserted that the English were the most inartistic people in Europe, which shows that he is a true patriot. Then he inquired where were the buildings which would remain as monuments for the admiration of future generations? They might search London in vain for them. They were now contemptible because they were ugly, but if they were beautiful they would become object-lessons. If the Master and the Company cared they might secure an object-lesson for posterity if they would have a new hall erected under proper conditions. The Worshipful Master would no doubt be able to indicate with a pencil the exact form of building which would attain that end. But meanwhile, without going beyond the City boundaries, it is possible to see several buildings which are interesting and which are likely to be more appreciated hereafter. Richard Minge, who presented the site of the Globe Theatre and other property to the Cordwainers, was not well inspired if the effect of his gifts is to make the representatives of the Company undervalue London and those who do their best to beautify its streets.

We stated lately that all the members of the committee of the Society of French Artists had resigned, a step which would make a Salon this year an impossibility. Since then various compromises have been proposed, and last week it was arranged to elect a new committee. The voting was continued for over twelve hours. The architects were the first to arrive at a definitive result, which was that all their representatives on the former committee were re-elected. The members are:—MM. Pascal, 115 votes; Vaudremer, 111; Loviot, 108; Adrien Chancel, 94; Raulin, 90; Normand, 89; Scellier de Gisors, 88; Courtois Suffit, 80; Formigé, 70; Bœswilwald, 69. Among the sculptors nineteen out of twenty members have been elected. With the painters there was also a victory for the previous committee. The consequence is that after all there will be a Salon which will correspond in many ways with those of preceding dates. Meanwhile the adaptation of the building known as the Grand Palais is being carried out to suit the new requirements. The great hall will be laid out with garden-beds in order to receive the sculpture. Adjoining there will be rooms assigned to decorative art, designs and architectural drawings. On the first floor there will be twenty-eight rooms, which will be devoted to painting. It is anticipated that the arrangements will be at least as complete as those of the Palais de l'Industrie, in which the Salons were held during several years. M. Thoumy is the architect who has had charge of the alterations.

The people of Toronto, or rather its Association for the Industrial Exhibition, do not esteem architectural ability at a high rate. It is intended to erect a main building which will cost 106,000 dollars, or, say, 21,000*l.* To the architect whose designs will be approved they offer a prize of 250 dollars, or 50*l.* There are to be other buildings, which will vary in cost from 5,000 to 15,000 dollars. The accepted designs for them will be rewarded by 40 dollars and 50 dollars. The competitors are expected to prepare plans, perspectives, elevations and a specification.



ILLUSTRATIONS.

THE LONDON COUNTY COUNCIL HOLBORN AND STRAND IMPROVEMENT.—DESIGN No. 29 (SEE PLAN ABOVE).

With Design No. 29 we conclude the series of designs prepared by London architects at the instance of the County Council. We have considered it preferable to reproduce all the drawings executed and to publish them on as large a scale as possible, instead of giving a selection on a scale which would not allow the details to be seen. When we commenced the series the authorship was not officially announced, and we have therefore given the drawings as they were judged by the committee, that is, as anonymous designs. We printed the names when they were announced officially, but it may be convenient to again furnish them. They are as follows:—17, Mr. Ernest Rüntz; 19, Mr. Edward W. Mountford; 20, Mr. Mervyn Macartney; 21, Mr. Reginald Blomfield; 23, Mr. Ernest George; 26, Mr. Henry T. Hare; 27, Mr. William Flockhart; 29, Mr. Leonard Stokes.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at Conduit Street, W., Mr. W. H. Seth-Smith, president, in the chair.

Messrs. H. Cayley, S. A. Hall and A. S. Tanner were elected members.

Mr. E. T. Hall read the following paper on

Flats.

When your committee invited me to write a paper to read before the Association on "Flats," I accepted without reflecting on the difficulty of the subject given to me. The title was so short and seemed so simple, but the seeming simplicity of the subject is a delusion.

A house of one storey we call a bungalow, but "flat" is the name we give to a self-contained residence on one floor of a many storeyed house. It is not euphonious, and it is not descriptive. The name betokens a lack of imagination, and it seems to me inept to adopt such a word to describe the abode of a large and increasing number of people. We do not often use the word for workmen's dwellings, but generally only for those of the richer class. We might as appropriately call an ordinary town house a "vertical." However, such as it is, the term is now accepted in England, or, at all events, in the south. In Paris *appartement* appears to be the accepted designation of such a residence as distinct from *pièce d'un appartement*, which designates a room in a set of apartments. In Germany there appears to be no word to distinguish a "flat" from a house proper, *Wohnung* or *Wohnhaus* are applied to both.

I suppose it is not more than forty years ago when flats on any large scale were introduced into London. Among the first, I think, were those stuccoed buildings in Victoria Street, and I can remember how some of them remained for years unfinished, so little or so slowly did the idea take on. This is surprising, because they had long been established in—for example—Paris and Edinburgh, two cities which have had many things in common since, and even before, the days of the Stuarts.

In England, however, habits are very conservative, and it took even the relatively travelled people of London a long time before they would accept a flat as a permanent residence. In the provinces to this day there are many cities and towns where no flat is known, as, for example, in go-ahead places like Leeds, Liverpool, Manchester and Cardiff, to cite places wide apart where there is plenty of energy and activity; and in two or three of these there are not any many-storeyed buildings for the working classes.

As illustrating the feeling that prevailed until the decade 1880-90, hardly any insurance company would invest in ground rents secured on flats or lend money on mortgage of such buildings.

From about 1880, however, flats began to move—as the phrase goes—and the projects for their erection steadily increased year by year until we have now a very large number of such buildings in all parts of London and in many of the suburbs. Many people of the well-to-do classes who formerly only hired a house for the season now take a flat by the year in lieu of a town house, to which they can come when they please. With a town house absence means at least caretakers and structural maintenance, whereas a flat may be locked up and the keys left with the porter on the assurance that all will be safe during the tenant's absence.

It may be interesting for a moment to make a slight digression by noting that the period which has seen the birth, growth and acceptance of the flat as a residential unit has coincided with the immense development of hotel life in London. I can just remember the completion of the Langham Hotel. I heard people say that it was a mistake to build an hotel of that size, that it would never pay, &c. That was the pioneer of the modern hotels. It was followed by Charing Cross and Cannon Street, Holborn Viaduct, the Grand, the Métropole, the Midland, the Victoria, the Fifth Avenue, the Grand Central, the Russell, and others further afield. The restaurant, too, was of the same period. It is within my time that outside a club or a chophouse there was hardly a place where one could get a decent meal, and certainly no place where one could take a lady except it were to an hotel. There were one or two Italian cafés, but if I remember aright the Holborn Restaurant was the first of any size to astonish the Londoner with its comparative luxury, cleanliness and good cooking. This was soon followed, and now there are as many restaurants in London probably as in Paris, although not quite on the same lines. However, we must return to our subject.

Accepting, then, the fact that flats as a distinct class of property have taken firm hold of London, and consequently afford an extensive field of operations for the architect, let us consider what are the problems to be solved when one has to design a building of this class. First, locality will have something to say. If the site be in a main West-end thoroughfare where shops are the essentially lucrative part of the property, and have to form the ground floor or possibly two floors, it will not as a rule be found to be remunerative to put family residences above, but bachelor suites generally with one sitting-room, one bedroom and a bathroom will be found to meet a considerable demand.

In the side streets of clubland similar suites, sometimes with a manservant's room attached, will realise high rents.

In Bayswater, Kensington, Chelsea, Westminster, &c., flats over shops will as a rule only be taken by the lower middle class, but in blocks which are exclusively residential and of good style there will be a considerable demand from well-to-do people of all sorts who do not wish for the trouble of a large house, the expense of a garden, &c., and who periodically shut up their flat and go away.

In Hampstead probably as high rents can be obtained as in Kensington, but in Battersea Park, and still more in places like Brixton and such suburbs the style and the rents must be simpler and cheaper respectively. The locality, therefore, and consequently the class of tenant will exercise an influence on the whole design.

I have noted that as a rule family residences for well-to-do people will not be readily taken if over shops and in the heart of London. It is strange that this objection does not hold in Vienna and Paris, where family suites in the heart of the cities are the rule, and are sometimes sumptuous. I suppose the difference lies in the temperament of the peoples.

In England the mistress of the house and the family generally like to have the opportunity of being quiet; "a quiet evening at home" one constantly hears as a phrase. In France and Vienna the genius of the people is for bustle, vivacity, stir and movement. To some natures quiet is appalling and abhorrent.

I have before me a book of new buildings in Paris—apartment houses—and of a total of fifty depicted thirty-four are in main streets and have shops on the ground-floor.

Another difference to be noted is that in Paris the rule is to make a service staircase in addition to the principal staircase; in Vienna and London this is not usual, although of course there are many instances to the contrary.

In a building with only one principal staircase the service staircase is a great protection in the event of fire, and where the floors are extensive I think should be made compulsory, but it should be at a distance from the other, and should be next an external wall with windows in it to enable the smoke to escape.

In some modern and handsome Parisian buildings there are stately principal staircases which are lighted by glazed partitions, or, as we call them, "borrowed lights," from the service staircase, which itself has windows. This is bad. If a fire occurred, and the flames went up one staircase, the other would be rendered useless for escape by the breaking of the glass partitions between. When there are two or more principal staircases this fire exit can be made by carrying both or all up to the roof, forming there a fire-resisting passage from one to the other.

In St. Ermin's Hotel and Mansions at Westminster, designed by me, where the buildings cover a site of about an acre and there are about 650 rooms, I have six staircases with such intercommunication.

It is strange that in Vienna very large blocks have sometimes only one staircase, with a comparatively narrow passage leading to it from the street through the main block. There is one such on the screen where there are six storeys and four suites on a floor.

In London the reason for excluding service staircases is generally the desire to keep tradesmen's boys out of the house, and to avoid the uncontrollable "back door." Very frequently goods are transmitted from the ground floor by small hand-service lifts passing outside the kitchen window or service hutch, and very useful and speedy lifts can be made by using bicycle wheels at top and bottom, with ball bearings, wire ropes and two balanced covered cages or buckets. Apparently in Vienna in many buildings all goods come up the one staircase to the front door.

A further point to observe is the very small kitchens and offices of the Paris and Viennese flats; 13 feet by 10 feet appears to be considered ample, and many are much less. There is no scullery, but sometimes a small pantry with sink is attached. This, however, is by no means general, and a larder is still more rare.

I am told that, small as the kitchens not unfrequently are in Vienna, it is by no means unusual to find them very handsomely fitted, the walls tiled and decorated with handsome ware. My informant says sometimes 300*l.* is spent in such a way, and the mistress takes her friends to see the kitchen.

Yet another point of dissimilarity from our practice is the fact that in Paris frequently there is apparently no bedroom for the servants within the suite.

In some cases the servants' bedrooms for the whole building are on the top floor, although there are many separate suites in the building. I should think a good deal of inter-family gossip is thus exchanged.

In Vienna generally one small bedroom for a servant is provided, sometimes opening only from the kitchen.

There is on one of the drawings displayed a handsome suite of rooms, with such a bedroom about 45 feet in area, in another 70 feet in area. These are not healthy. Certainly 100 square feet should be a minimum. Of course, I do not know that other rooms may not sometimes be allocated to servants, but having regard to the few bedrooms and the size of the sitting-rooms this does not appear to be probable.

In London it is usual to house the servants within the flat, but here, as well as in Vienna, the vice of making a bedroom open out of the kitchen is still practised, and when one reflects that slops have to be carried through the kitchen in times of sickness and of health, it will be seen how insanitary such an arrangement is.

Our friends abroad are not always so particular as we are in other sanitary matters, and you will note on the screens some bathrooms with no light and not against external wall, larders similarly situated, even behind water-closets, and the evil practice which obtained in England, even within the last half century, is still maintained abroad, of lighting and ventilating water-closets from staircases and passages. Here that is no longer possible, thanks to our sanitary laws, and I feel sure that our friends abroad now realise the evil of such arrangements, and will not be offended at my mentioning the defects should any of them honour me by reading my paper.

I have yet another little sanitary point to mention, and that is the danger of taking soil-pipes of flats down inside the building against external and even internal walls in chases. Such chases afford channels for carrying infectious diseases from one suite to another. They are passages for vermin and for sound, to say nothing of the danger if the pipe leaks. Our laws have practically banished this evil from London, although I well remember to have seen it practised in some of our pioneer flats.

Internal staircases, however handsome they may be, with only top light and ventilation, are also to be deprecated in confined areas where there are many storeys of flats. Such staircases, in the event of fire, become furnace shafts, and at least get full of smoke, choking those trying to escape. The odours of the lower part of the house ascend to the top, and again illness is conveyed by them from one part to the other.

While many will realise the last-mentioned evil, it is not all who pay attention to the point I am about to mention, and that is the necessity for a current of air through small internal areas or courts extending from the ground to the sky. These small courts are frequently and not inaptly called "well holes."

Now everyone knows that the air at the bottom of a well is often so bad that a candle will not burn in it. A "well hole" area without through ventilation is in a lesser degree bad in the same way; and when, as is generally the case, there are gullies at the bottom giving off foul gases from fermenting deposits, it can be realised that windows opening into such areas are merely inlets for poison. All such areas should be ventilated by means of an inlet of large capacity at the bottom from some road or considerable open space where there is always movement of air going on.

Fourteen or fifteen years ago I realised the evil and practised the remedy, and we obtained its insertion in the London Building Act of 1894. I was much pleased to see the necessity for this bottom inlet to small areas urged in a recent letter from M. Poupinel, of Paris, when he was kindly forwarding some of the drawings now exhibited, and it will be seen that he has inlets to his small courts in the houses Nos. 8 and 10 Rue Descamps. M. Poupinel has also taken fresh air flues from the exterior to every fireplace in his building, and he has outlet ventilators in his kitchens.

We, in London, are accustomed to outlet ventilators from not only kitchens, but reception-rooms and bedrooms, but they are uncommon abroad, and the atmosphere of a stove-heated and unventilated room on the Continent is something to be remembered by those accustomed to fresh air.

There is only one further point to mention before leaving this hygienic branch of my subject, and that is the desirability in our cities of having large windows in our rooms and keeping the tops of them reasonably near to the ceiling.

A subject that may profitably engage our attention for a minute or two is the construction of the floors.

In all high buildings for many families the floor should be of fire-resisting material Some years ago Mr. Evans patented a floor which was composed of ordinary wooden joists laid close together and well spiked, thus making a solid wood floor. I do not know what has become of the system, but its tests showed it to be practically impervious to fire, and from its fibrous character it was claimed to be sound-proof. Another mode of constructing a floor is to fix rolled steel joists and build 4½-inch thick brick arches between. This used to be the most common method of construction in London, and it is still much used in Vienna. Above the brickwork were wood joists and an ordinary floor. The most common because cheapest method used in England is, however, to place rolled steel joists at regular intervals, generally 2 feet apart, and to fill the space solid with concrete made of cement and coke breeze, bringing the soffit of the concrete an inch or two below the joists to protect the steel from the direct action of the fire. Frequently small fillets of wood were, and sometimes still are, laid on the concrete and the boards nailed to the fillets; without ventilation, however, if the floor is covered with linoleum, such fillets and the boards over them may decay from dry rot, and the same remark applies to linoleum laid on boards nailed direct to concrete.

One objection to the solid concrete floor is that it is not impervious to sound. The only way to remedy the evil is to get an air cushion beneath the floor itself, and to suspend the ceiling. There are several ways of doing this.

To get over the difficulty regarding wood floors where these are intended to be covered, I have in many recent buildings dispensed with boards, trowled the floor with cement, and covered this with linoleum, either plain or ornamental. At once a furnished appearance is given to the floor, and rugs or carpets look well on it. The material is pleasant to the tread, it is not so resonant as wood, and there are no joints in which vermin may harbour.

I much fear that so much detail is wearisome, and yet it is valuable, and for the most part essential to an architect to know it all before he can start to make a good design with the hope of getting a successful result.

Turning now to the æsthetic side of the subject, let us consider the block plan. First of all, do not crowd too much building on your land. Doubtless a site that is crowded will show a large rent-roll on paper, but the building will not in the end be so popular as an open and more airy and consequently more healthy block, and the rents of the former will have to be reduced.

Of course the shape and extent of the site will largely determine the block plan, but for our purpose we will assume a considerable area to be at our disposal. It may be laid out with a large carriage quadrangle in the centre, as in the examples on the screen of (1) No. 87 Boulevard St. Michel, or (2) No. 32 Rue la Boëtie, both belonging to Le Nord Assurance Company, the architect being M. M. J. Nenot. In these the entrances are from the courtyards. In Mr. C. J. Pawley's St. James's Court, Westminster, we get one large courtyard with a narrow roadway on each side leading to it behind and through the front block.

Another type is where the main entrances are from the roadways, as, for example, Der Habighof, Vienna, Herr H. Adams, architect.

Here we have as characteristics two blocks parallel to the Haupstrasse and one facing the side street. The internal courtyards are used merely for light and air. There is a third method, as at St. Ermin's, Westminster, where the buildings are U-shaped, the large central quadrangle being open to the south or main front. This open quad may, however, be at the back if the aspect is more suitable at that side.

This third method is shown in Mr. Paul Hoffmann's recent buildings, 171-5 Queen's Gate.

The enclosed quadrangles permit of more land being covered than where the fourth side is left open, but the latter scheme has many other advantages.

Even, however, on a comparatively small site a very pretty effect may be obtained by having a central circular carriage court, partially glass roofed, over the ground floor, the area above being open for lighting and ventilating the staircase and rooms.

Coming to a consideration of the internal planning of the buildings, I think a good public entrance hall on the ground floor is a *sine quâ non.* The porch and vestibule should be simple, and may be plain. The hall should be spacious; not a mere passage, but a good room, well lighted, the walls panelled in wood to a considerable height, having a large, hospitable fire, and a panelled ceiling. Personally I do not like the "gorgonzola" and other marble wall effects which are so frequently seen in modern blocks. They are not, I think, in harmony with essentially domestic buildings, and I prefer the more cosy effect of a good hall in a country house Of course columns may enter into the composition with great advantage, and any scheme of colour.

The position of the staircase must, of course, be governed by the shape of the site, but if it can be made a part of the hall scheme so much the better, as it produces an effect of spaciousness, which is valuable.

I would draw attention to the very general feature abroad of staircases planned as semicircles, ellipses or on other curved lines. The result is very pleasing, and contrasts favourably with the straight flights of stairs in a rectangular space so frequently seen. I do not like curved flights of stairs to extend without any intermediate landing from floor to floor. These appear to me rather monotonous, as well as tiring and dangerous. They are, however, common in Paris. I think the best planning, internally, is where on each floor there is but one flat off a main staircase. Such a flat is more private, and gives an idea of not being limited by its neighbour. There may, of course, even with this arrangement be several staircases within the building itself, and several flats on a floor. Of course, "the one staircase one flat" idea would only be practicable when the flats were of considerable size. When there are family suites, each of but five or six rooms, one staircase may reasonably serve two suites on each floor. This gives a certain elasticity to the place, as two small suites may then be combined and let as one large one. In high buildings I think it is not desirable to have a greater number of flats on a floor to one staircase.

Mr. Hoffmann, at Queen's Gate, has his centre block with one flat to a staircase, and the wings with two flats to a staircase. The plan is an excellent example of how to lay out a large site.

In the Avenue Ledru Rollin, No. 68, M. Montalto gives another good U-shaped plan, with the quadrangle at the rear and two flats to a floor. The site is out of square, but the planning is admirable, and all parts are well lighted. There is one main staircase, and there are two service staircases adjoining the kitchens.

The planning of a flat itself is an interesting problem, one requiring great thought. First, there should be a good and well-lighted hall or antechamber. The reception-rooms should be readily accessible from this, the bedrooms more retired and the offices out of sight, but handy for service to the principal rooms and to trade access.

Efforts should be made to get away from a mere narrow passage hall, and to adopt some more compact plan. An octagon or a circle, a hexagon or an ellipse, will give pleasing forms, and all admit of decorative treatments. A good example of an octagon treatment may be seen in M. Nerrot's building in the Rue la Boëtie, and there is another at No. 42 Avenue Henri Martin. The rooms, too, even in rectangular sites, need not all be square or rectangular. M. Poupinel, in his No. 10 Rue Descamps, gives an excellent plan of a flat, interesting as a composition, the rooms of different geometrical shapes, passages well lighted, the whole convenient and well-arranged, although, perhaps, the hall might have had a better window in the angle without injury to the other rooms. In this building we note on the ground floor an up-to-date cycle stable in a convenient position, an elliptical staircase with lift, one suite on each floor consisting of three reception and five bedrooms, bathroom, two water-closets, a little kitchen (about 11 feet 6 inches by 9 feet 9 inches), with an "office" or pantry fitted with cupboards, between it and the service staircase. There is a meat safe in the kitchen window, but no separate larder. I have already referred to the servants' bedrooms on the top floor, to the ventilated courts, &c. I venture to suggest that it would have been better if the service staircase had an exit on the ground floor distinct from that through the main entrances.

As to height of rooms, it appears to be very general to adopt about 10 to 11 feet in clear in all three capitals. I think this ample for moderate sized rooms; a greater height makes them appear smaller in area.

Windows should be ample, especially in a city, and I would draw your attention to the large size of doorways in the Parisian examples. Passages should be light, and the more direct the better. Do not forget to provide ample cupboards.

Baths, sinks, water-closets, &c., should not be all over the place, but, within reason, grouped near together.

On the subject of planning, I would sum up shortly by saying, make your plans interesting, bright, and above all study to make them simple, the simpler the better. You may be sure if you see an intricate plan it is ill-digested, inconvenient, and generally not so well lighted or ventilated as it should be.

We have hitherto considered only large sites, but there are a greater number of small sites which have to be treated, and I would refer you to Baron Max Ferstel's design of a house in the Stammgasse, Vienna. It is six storeys in height, the top floor containing studios. The other floors contain each a flat with five rooms, in addition to a kitchen with servant's bedroom attached and a larder. Here the two nurseries are placed at the rear, with separate service from the kitchen. There is also an access from the living-room to these children's rooms, so that the mother has a ready control. The bathroom and water-closet are ventilated into a small area, but the bathroom is only apparently accessible from the living room, which appears to me to be an undesirable feature. The planning also of the suites over the Café Secession, in the Rothenthurm Strasse, by Professor Julius Deininger, is worthy of study. Herren Fillner & Helmer, in No. 21 Schottenring, have a pleasing and clever little plan, with a good courtyard. The suites have a hall, three rooms, bath and water-closet.

Among the Parisian drawings there is an excellent treatment of an acute-angled small site at the corner of the Rue Montmartre and the Rue Rëamur by M. Gautrin. The angle itself is occupied by a circular salon, the other six rooms all face the two streets; the staircase is circular, lighted from an internal court, and the passage is also well lighted. M. L. Carrier, at the corner of the Rue du Faubourg Saint Honoré, has also a most convenient and pretty treatment of a good site.

Another good plan is that at the angle of the Faubourg St. Martin and the Rue du Chateau d'Eau by M. Rives.

In London Mr. John Slater's corner of Mortimer Street is convenient and well lighted.

In Palace Chambers, Buckingham Gate, Messrs. Martin & Purchase have an angle site which appears to have required considerable thought to evolve a plan to give good light to all the apartments.

Perhaps it may be permissible to mention one of my own buildings with a rather awkward site. It is a quadrant on plan at the corner of Sloane Gardens, and is shown on the screen.

Among the plans of bachelor suites we have one of Mr. John Slater's for a very shallow site in Well Street He puts two suites to a floor off each staircase, and also, in addition to a parlour or sitting-room, two bedrooms and a bathroom with water-closet in it, gives a small kitchen. The whole forms a very small self-contained residence, to be let at a low rent. Mr. Paul Hoffmann, in Harewood Place and Hanover Square, has one staircase, a corridor common to several suites, each containing an entrance lobby, a sitting-room, bedroom, bathroom and water-closet, but the two end suites can be combined to make a family suite.

I would draw your attention to two sets of plans of large buildings in Vienna the sites of which are acute-angled triangles, both by Professor Carl Konig. One at the corner of two streets is the palais for Herr Josef R. von Herberstein. It has a carriage entrance in the centre of the principal front, a small glass-covered courtyard in the centre, and a way through to the side street. You will note that there is a stable within the main building entered from the courtyard. The second and third floors are divided into two complete suites of flats. Two principal staircases are carried to the mezzanine and first floor. One of these only goes up higher, and a service staircase is carried from bottom to top. A difficult site is well utilised, and all parts of the building are well lighted.

The other building, with a site of almost identical shape but larger, is surrounded by roads, the Augustiner Strasse, the Tegetthoff Strasse and the Führich Strasse, and the approaches are arranged in the same way.

No elevations have been sent.

There are others of Professor Konig's designs which will repay study.

In the Palais Leon-Wernberg, by Herr Baurath von Newmann, we have an example of another large building with a good central area. One staircase above the first floor serves a large number of rooms, forming two suites per floor. From the landing an outer gallery gives access to the suites and borrowed light to two or three rooms. On the first floor I would note the careful planning of the acute-angled excrescence on the right hand. The same architect sends us drawings of two other large buildings erected from his design.

It may also be of interest to compare the design by Herr Victor Siedek in Vienna with that by M. Michel Rabier in Paris for sites of nearly the same shape.

It would not appear to be desirable to carry the limits of my paper to a further detailed description of planning, and I will conclude by some observations on external design. Manifestly, the accessibility of material will have an important influence on design if the architect intends to display his building material. In Paris stone is practically always used. In London red brick, with or without stone, is generally used. In Vienna the construction is very largely of brick, but the facing is of stucco or cement, and so are most of the columns and architectural detail, even in some of the largest buildings.

Owing to the commercial requirement that every floor of flats must be equally well lighted, and to the structural desirability in high buildings of getting voids over voids, which together very generally result in windows being made of the same width on each floor, a Classic treatment is nearly out of the question.

Gothic, except in its latest English style, has not been attended with great success, and practically everywhere some branch or phase of Renaissance has become more or less the accepted basis of design. I have used the word Renaissance in a wide sense because, while some have introduced the normal Italian features, others have broken quite away from them. We know how, more in sorrow than in anger, one of our own Classic masters laments the depravity of a truant architrave or frieze in an entablature, and I can quite imagine the similar sensations of some of his Austrian colleagues at what is, I understand, there called the Secession style.

A very interesting example of this style is shown in Professor Julius Deininger's Romerhof. Note the original treatment of the exterior, the sculptured figures on the angles of the bays, the panelled pilasters with masks and long pendent ribbons, the coved floral cornice without architraves or necking, the carved, or rather modelled, surface treatment of growing trees. Another example is a house in Wenzels Platz at Prague, by Professor Jan Kotera, pleasing and refined in treatment; or, again, Professor Otto Wagner's house in the Magdalenen Strasse, Vienna, of which two views are given, one showing the circular angle of the building, with its pavilion on the top storey flanked by pilasters, on which an effect of plain and rusticated courses is produced by a decorative treatment of growing foliage, the other illustrating the elaborate surface decoration of the principal elevation. There is also a design by Herr Oscar Marmorek, Der Nestroyhof at Vienna, illustrating that architect's views on modern architecture.

Herren Fillner & Helmer's design for the building on the Franz-Josef Quai in Vienna is quite different in character, and is a refined treatment of Renaissance. Their St. Annahof is an example of design in a Mediæval style, quiet and picturesque, the surface unbroken by strings and capped by a small cornice. The lower part is enriched with broad bands of nearly life-sized figure subjects modelled in bas-relief.

In Paris the architecture of the apartment house has generally its characteristically native treatment, shows great refinement, and, in my view, adapts itself admirably to the purpose of the buildings. If I may single out one or two illustrations as indicative of this adaptability, mention might be made of the exhibited design in the Rues Rëamur, Ledru-Rollin and Chateau d'Eau among many others.

In London the most conspicuous block is on the Embankment—Whitehall Court, by Messrs. Archer & Green—a stone building, as to design based on French Renaissance. Most of the other flats in London are of red brick and stone combined. They are well known and accessible to all of you.

Doubtless in some, and may be in all, there are features which, whether admirable or not, are suggestive, and from which you may derive an inspiration of great value.

Well, sir, I am now coming to an end. My endeavour has been to recite first the practical and hygienic considerations regarding safety from fire, exits, ventilation and sanitation, which form the very bed-rock on which to base a design; then on this basis to consider the æsthetic side, to suggest principles governing the laying-out of various sites, the internal planning and lighting of the buildings and their exterior treatment. I have sought to interest the meeting by illustrations from the works of many architects at home and abroad. If I have succeeded in offering any food for reflection then my labour will not have been in vain.

In conclusion, I have to offer on my own behalf, and I am sure on yours also, our cordial thanks to our colleagues at home and abroad who have so kindly lent their drawings to-night. Their names are given in the body of the paper.

Mr. Locke, our esteemed secretary of the Royal Institute of British Architects, very kindly responded to my request to assist me in getting foreign drawings, and wrote to Baron Max Ferstel, of Vienna, and to M. Poupinel, of Paris. To both those gentlemen we owe an especial acknowledgment for their great courtesy in sending us so many drawings. Baron Ferstel especially must have taken infinite trouble to collect from so many architects the very large and interesting series of representations of their works which we have been privileged to examine. You will, I know, desire me to send through both the gentlemen I have named your greetings to them and their colleagues, with our expression of a hope that the new century may strengthen the bonds of amity between our respective countries.

Mr. J. J. Stevenson moved a vote of thanks to the author of the paper, and said one thing struck him which must affect the planning of flats in England as compared with France, and that was the arrangement of the servants' rooms. In France all the servants slept on the top floor of the house, but this system would not be adopted in England. Another great difficulty was to make sufficient servant accommodation. The speaker said it had occurred to him whether, instead of flats all on one floor, it might not be a good plan to make a flat of, so to speak, two flats, a collection of one-pair houses one above the other.

Mr. Paul Hoffmann and Dr. Dykes also spoke. Mr. Francis Hooper seconded the vote, which was supported by Messrs. C. J. Pawley, G. B. Carvill, and A. T. Bolton. The President concluded the discussion.

JOHN MARTIN'S PAINTINGS.

IN a letter to the *Times* Mr. E. Wake Cook calls attention to the unaccountable absence from the winter exhibition of one of the very greatest masters of the brush—a man who held the same relation to Turner that Michel Angelo, as a painter, held to Raphael, the man of whom Bulwer-Lytton wrote so enthusiastically, John Martin, whose masterly handling of those "immeasurable spaces, innumerable multitudes and gorgeous prodigies of architecture and landscape," created a sensation when first shown, but which have been allowed to drop out of sight utterly since then. Nothing seems to be generally known of those "sixteen sublime works," none have been shown at the winter exhibitions of the Academy, there are none in the National Gallery, and only one small water-colour at South Kensington. This is a national loss, not to say a national disgrace. We may dislike his "awe-inspiring" subjects; he may, at times, in striving for the sublime, have gone perilously near to the ridiculous; but no one who knows anything of art can deny his stupendous power.

He may have failed in parts of the painter's craft; his subjects are often grandiose, and contain far too much weather; yet in all the highest qualities of the poet-painter, in composition, and in that soul-faculty imagination he is Miltonic, Dantesque, a veritable Titan among men. John Martin is too big for us, we are apt to see only his feet of clay, our sympathies go with smaller men and smaller aims. His work is often brutal in its strength; so is Michel Angelo's in his "Last Judgment." His figure drawing is faulty, but is much better than Turner's, and better than the drawing of many of the old masters whom the critics would think it sacrilege to question. Whatever faults he may be charged with, I can parallel in works of men who are held in highest honour. But that would be ungracious work. Turner and John Martin, one the apostle of light and beauty, the other of sublimity, made a greater advance in painting than any other two men before or since. They are peculiarly English, no other country can show any like them. Turner might be described as the apotheosis of Claude, but Martin is unique. Yet Turner is acclaimed and receives abounding honour in Ruskin's glowing prose, while Martin is utterly neglected; we never hear his name nor see his works. This great injustice, which reflects so much discredit on ourselves, must be rectified. A great opportunity has been lost in excluding him from the present winter exhibition, although he died within the period covered. Academicians, to their credit be it said, have at times proposed to show Martin's works, but I believe it was Lord Leighton who objected. Death, unfortunately, has removed the objector, and the objection should never have been raised. The Academy should haste to make amends for their unworthy neglect. We are nationally poorer while we deny Martin the place in our temple of fame which is so justly his due.

In the present-day scramble to be up-to-date and for notoriety, the screaming poster is becoming the ideal of our new critics, and our young men are playing such fantastic tricks that art is tending to the hoardings. At a time when the degenerates are thus invading art and criticism, and standards are debased that mediocrity may pose as genius, and the soulless craftsman is exalted above the artist, it is urgent that the works of this great poet-painter should be unearthed and made accessible to our hungering students, who ought to make it a point of national honour to take up the work of our two great idealists and carry it forward to the heights they pointed to but did not themselves attain.

CAMEOS.*

THE word "cameo" does not in any way help towards a proper understanding of the term. The real derivation of the word is unknown. As we now understand them, cameos may be defined as small bas-reliefs cut upon some substance precious because of its rarity, beauty, or hardness.

The earliest examples of the art are perhaps to be found in the scarabs of ancient Egypt, combining both the cameo and intaglio, as their bases are engraved with designs. Early instances also exist in the form of small sculptures, also on the back of seal stones of Greek and Etruscan origin, as also rarely in Mycenæan work. Glass cameos were probably made at Rome long before the Christian era, and of still earlier date are found small rosettes and medallions of clay impressed with designs in relief and gilded.

The ancient Egyptian scarabæi are usually made in some soft stone, steatite, syenite or serpentine, all of which can be cut by flint or obsidian flakes, or even by hard metal chisels. But harder stones were sometimes successfully cut, examples being found in amethyst, carnelian, obsidian and jasper. The majority appear to have been made in moulded glass or porcelain, usually with a green or blue glaze.

About the third century B.C. the peculiar adaptability of the banded onyx for cameo work was first generally realised, and it rapidly became the favourite material in which the most skilled artists worked, and cameos in time became valued articles of personal adornment, increasing in favour in proportion as the use of seal rings declined.

Onyx, which is a silicious chalcedony, is usually formed in irregular hollows in trap rock, and is deposited gradually in successive layers from the outer contours towards the centre, alternately crystalline and amorphous. The crystalline layers are white in reflected light, the amorphous are translucent, greyish and curiously permeable by liquids. In consequence of their permeability, certain colours are sometimes naturally acquired by the amorphous layers of chalcedony; in cases where the water of infiltration is loaded with iron, a yellowish-red will probably be found, producing what is called a sardonyx, from a Persian word "zard," meaning yellow; other metals will impart other tints.

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* A paper read before the Applied Art Section of the Society of Arts, by Mr. Cyril Davenport, F.S.A., on Tuesday, January 15.

Pliny (first century), in his "Natural History," among other notes concerning jewels, says that (Book xxxvii) in his hands are books "wherein it is deciphered how to sophisticate transparent gems," a statement which likely enough refers to artificial colouring of chalcedony. But at the same time it may also only mean the paste imitations which were plentifully made both before and during the time the "Natural History" was written.

It is, I think, probably due to the discovery of the remarkable adaptability of the onyx stone for cameo work that the art has developed so as to become one of a considerable range and considerable importance both from the antiquarian and the artistic point of view.

Without this discovery we should not have possessed the Strozzi Augustus of the British Museum, or the Portland Vase, or any of the works like them, bearing designs cut in one coloured layer on a background of another, but we might have had the Vase of St. Martin cut simply in an agate without any reference to the trend of its colour layers, and the phaleræ in chalcedony or amethyst, or any other stone of one colour. But without the onyx cameos it is likely enough that all the rest would never have been considered more than small and delicate pieces of sculpture, not belonging to a school of their own, so that for the existence of cameos as a distinct branch of art we are probably indebted particularly to that unknown lapidary who first hit upon the idea of cutting the banded onyx parallel to its colour layers instead of across them.

At Oberstein, in Oldenburg, there is a large onyx industry originally fixed there because the stone was found plentifully in the neighbourhood, but this supply having now become comparatively small onyxes are sent there in quantities from India, Brazil or Egypt, to be sliced up ready for cutting, shaped and artificially stained with colours as may be desirable.

The staining of onyx is well understood, and is now reduced almost to a certainty, so that it is said that any ancient and presumably natural tint can be artificially produced with great accuracy:—Reds by means of pernitrate of iron; black by oil, honey or sugar; blues by iron with ferro-cyanide of potassium (prussian blue); greens by nitrate of nickel. Heat alone will often darken and improve the colour of an onyx; sulphuric acid will often improve the colour of an onyx when metallic oxides already exist within it; nitric acid will often pale an onyx.

The white or crystalline layers are seldom meddled with. They can only be slightly reddened superficially by painting with a solution of iron or a little thickened by heat or strong acid.

Methods.

Early carvings and engravings on hard stone were probably at first cut with a sharp diamond splinter alone; in time the diamond point was only used to sketch out the design on the polished surface of the stone, the actual cutting being afterwards done more easily and expeditiously by means of a hand drill, or some more powerful tool analogous to the modern jeweller's lathe. The harder stones require the help of oil and diamond dust to cut them, the soft iron points which are used become thickly coated with microscopic pieces of diamond and when rapidly revolved form a very powerful cutting surface.

Emery is mentioned by both Theophrastus and Pliny as being the best material for rubbing down stones for engraving, the softer of which were probably sometimes engraved with flint points. Emery will polish a diamond; it is crystallised alumina, and a variety of corundum.

For polishing ordinary stones rotten stone (powdered alumina) or tripoli powder (powdered silica) are most generally used. For polishing, of course, the material used must be softer than the substance to be polished, and the points used for carrying the polishing powders are also soft—copper, ivory or wood.

Periods.

My examples are arranged in three divisions, antique subject or portrait cameos on small or flat stones; antique vases and cups on nodules of onyx or cut as cameos on blue or white glass; and the later or Renaissance cameos

The Greek cameos made between the first century, B.C., and the third century, A.D., may as a class be considered as the finest that at present exist, and all the greatest known work of the kind belongs to this period. The universal acknowledgment of the surpassing excellence of the Greek workmen is marked in an interesting way by the fact that the extremely skilful Renaissance cameo-cutters nearly all signed their names, if at all, in Greek characters.

Augustus Octavianus Cæsar, second Emperor of Rome who reigned during the latter part of the first century, B.C., and the first few years of the Christian era, was evidently not only a splendid model for the cameo cutter, but also a man of much learning and culture and a great patron of the arts. He is said to have been the original of Eneas as depicted by Virgil.

During the Roman Empire until the time of Constantine great luxury prevailed, and no doubt the lavish expenditure which was indulged in by the opulent and luxurious collectors of that time tempted the most skilled of the Greek cameo-cutters to migrate to Rome, and follow their avocation there more profitably to themselves than they could anywhere else.

Towards the end of the third century the Greek influence began to die out of Roman art in cut gems, and consequently there is a marked decline in the hitherto high standard reached in their production, and in the fourth century when Constantine the Great moved his court to Byzantium—"Nova Roma," as it was sometimes called—a new style, Christian in feeling, began, and the classical designs hitherto prevalent were changed as to their attributes or superseded by others of new character. Hercules becomes David, Perseus and the Gorgon do duty for David and Goliath, Venus and Leda both become the Virgin Mary, and the heads of Medusa have the snakes cut away and are changed into the holy face of St. Veronica. Byzantine art in cameos is not remarkably good; it is chiefly noticeable for the skilful manner in which advantage is taken of the natural markings of the bloodstone

Some ancient portrait and subject cameos are of world-wide celebrity, either because of the exquisite beauty of the art displayed upon them, or for the size and beauty of the stones in which they are cut. The largest of these are both illustrative of scenes in the life of the Emperor Tiberius, who succeeded Augustus; one is at Paris (13 inches by 11 inches) and the other at Vienna (9 inches by 7½ inches). M. Ernest Bahelon thinks these may both have been cut by the celebrated engraver of intaglios, Dioskorides. Then there is the beautiful double profile cameo at St. Petersburg known as the "Gonzaga Cameo," representing Ptolemy II. Philadelphus, king of Egypt, and his wife, and another of the same king with his second wife, at Vienna.

The large double portrait cameo, formerly in the Marlborough collection and now in the British Museum, is also one of the great cameos of the world; it measures 8¾ inches by 6 inches, and represents an emperor and empress facing each other, in profile, with the attributes of Jupiter Ammon and Isis.

The most beautiful single head in a cameo is probably the portrait of the Emperor Augustus, now in the British Museum, and formerly in the Strozzi collection at Florence. It measures 5 inches by 3¼ inches, and is cut upon a most beautiful sardonyx.

Among the Renaissance cameos, as far as I know, there is only one of great celebrity, that is, the small marriage group of Eros and Psyche, falsely signed "TYRPHON EPOIEI," which was formerly in the Marlborough collection, and has now gone to America.

Cups, Vases and Dishes.

Besides the usual form of portrait or subject cameos so well known to us, samples of which you have just seen, there is another class which is important and perhaps not so well known or appreciated as it ought to be. These are the vases, dishes and cups which are cut as cameos, and made out of nodules of onyx or of blown and cut glass. There are now but few ancient examples of this development of the art of the cameo cutter left; most of them have succumbed to the destroying influence of time. It is said that when the Roman General Pompey brought back from Egypt the treasure he had captured from Mithridates, king of Pontus (first century B C.), there were some two thousand cups of carved hard stone among it. One of these is said to exist in the "Cup of St. Denys," now at Paris, but it appears to me to have the characteristics of later work. The "Tazza Farnese," now at Naples, and formerly in the collection of Lorenzo de Medici, is a flat agate dish (diameter about 8 inches), magnificently cut as a cameo, with figures probably of Egyptian divinities. The Vase of St. Martin, now at St. Maurice d'Agaune, in the Rhone Valley, is an onyx cup, dark still with its Byzantine setting; it is probably early Byzantine work, or possible late Roman mounted by Byzantine artists. The small but exquisite chalcedony vase (8½ inches high) recently bequeathed to the British Museum by Baron Ferdinand Rothschild, belongs to this class. The lip, lid and foot are of enamelled gold, added probably in the sixteenth century.

Besides these, which are all of the first importance, are the remarkable works of the same kind, but executed in glass; the Portland Vase in the British Museum, the Vase des Vendanges at Naples and the Auldjo vase in the British Museum—the first is the finest. The Vase des Vendanges alone is perfect.

These are all antique, and as exquisitely worked as if they were made of the most valuable stones. There are numerous fragments still existing of vases of this kind which have been broken.

These glass vases are indeed glorified "pastes," of which numbers were made during the time of the Roman Empire and just before it. As a rule pastes imitated intaglios and were cast from clay moulds, and there are examples of paste cameos probably made as early as the second century, B.C. These are rarely satisfactory because of the difficulty of persuading the glass for the part in relief to keep to its own ground. In the case of the vases, however, the procedure has been different; the reliefs have not been cast, as Wedgwood reliefs are for instance, and then stuck on, neither have they been cast in one piece with the darker glass of the ground, but the vase has been made in the dark glass first, then dipped in white glass so as to be entirely coated with it. The vase has then been treated exactly as if it was a stone and the cameo cutter has cut the glass in the same manner as he would an onyx. None of these cut glass vases have now a high polish, but it is possible that they originally had, as some of the glass plaques of similar workmanship and about the same date are polished.

Renaissance.

After the Byzantine period until the Renaissance, *i.e.* until the fifteenth century, there is a lack of consecutive art in the direction of cameo cutting. The Byzantine cameos are not remarkable for beauty in design or execution. They are largely cut in bloodstone, the peculiar colouration of which was peculiarly fitted for representations of the Crucifixion.

Christian designs prevailed as a rule until the end of the fifteenth century, when the Renaissance began, and classical designs in their turn replaced those taken from Biblical sources.

The earliest great patron of cut gems of the Renaissance period was Cardinal Bembo, afterwards Pope Paul II., who made a fine collection. He is said to have so loaded his fingers with rings set with gems that they chilled him to death. His collection was largely acquired by Lorenzo de Medici, called the Magnificent, who ruled in Florence during the latter half of the fifteenth century.

The revival of the arts which took place in the fifteenth century is generally considered to have been largely due to the patronage of this great Italian. He had many of his gems engraved with his name. The Medici collection is now dispersed chiefly between the museums of Naples, Florence and Paris.

Renaissance cameos are remarkable for the technical skill displayed upon them, and the beauty of their settings. Benvenuto Cellini is credited with two settings for cameos now at Paris. Although the general level is high, there are no really great cameos of the Renaissance period. It was indeed a revival of the art only, and does not add anything new to the existing styles. There were innumerable imitations made of antiques, many of them most skilfully. Names of celebrated engravers were frequently added both to inferior antiques and to new gems, but cameos have fortunately not suffered nearly so much from fraudulent imitations as their cousins, the intaglios.

From the sixteenth century to the present time shells have been largely used for small cameos. It is, technically, a different art from the cutting in hard stone, and is executed more after the fashion of a wood-carving, as the shell is comparatively soft.

Queen Elizabeth caused her portrait to be cut in cameo several times; some of these have no doubt been executed by Julien de Fontenay, called "Coldoné."

In later times Italian artists have most notably followed the profession of cameo cutting. Flavio Sirletti, in the eighteenth century, is said to have nearly reached the Greek perfection of technique. Giovanni Pichler and Sirletti, too, cut some cameos with the diamond point alone as an experiment. Jean Saurent Natter, of Nuremberg, flourished in the same century; he was particularly successful in his imitations of the antique, for in all probability numbers of so-called Græco-Roman gems are really his work. He made a catalogue of the Bessborough gems, afterwards part of the Marlborough collection, and he also wrote a valuable treatise on the ancient and modern systems of engraving and cutting gems in hard stones.

Alexandro Cesati, called "Il Greco," was noted for his fine draughtsmanship. Madame de Pompadour learnt the art of gem cutting from the French artist, Jacques Guay, who made cameo portraits of her, Louis XVI., Marie Antoinette and others. Guay could hardly write, and it is supposed that the signatures in his cameos were cut by someone else.

In the nineteenth century the decline in the popularity of cameos has been marked; indeed, although there are several names of known artists who sometimes made them, that of Bernardo Pistrucci alone has reached a point of eminence. Pistrucci came here from Rome early in the century, and eventually became chief engraver to the Royal Mint. He designed the beautiful group of St. George and the Dragon, which is still used on the reverse of some of our coins now in circulation. He wrote an interesting autobiography, in which he tells the story of a head of Flora, cut by himself, which was sold to Mr. Richard Payne-Knight as an antique. Pistrucci showed his mark on the gem, but Mr. Payne-Knight disbelieved the story.

GLASGOW INSTITUTE OF ARCHITECTS.

A SPECIAL general meeting of this Institute was held on Monday in the rooms, Pitt Street, Glasgow, Mr. Alex. Petrie, vice-president, in the chair. Sympathetic reference was made to the death of one of the oldest and most respected members of the Institute, Mr. John Burnet, F.R.I.B.A., ex-president, and father of the present President, which took place on the 15th inst. Mr. Burnet had reached the venerable age of eighty-seven years, and was held in the highest esteem by all who knew him. He was one of the original members of this Institute, was long a member of council, and held the office of president from 1876-78. Latterly he was on the roll of honorary members. He became a Fellow of the Royal Institute of British Architects in 1876. During Mr. Burnet's long career as an architect he and his firm of John Burnet & Son designed many important buildings in Glasgow and the West of Scotland, among others the Western Infirmary, the Stock Exchange, the Merchants' House, the head offices of the Clydesdale Bank and of the Union Bank of Scotland, Woodlands Road United Presbyterian church, the mansion-houses of Auchendennan and Arden, and Rowardennan Lodge, Loch Lomond. Mr. Burnet's relations with the Institute and his professional brethren generally were of the most cordial character, and his genial presence and wise counsel will be greatly missed. It was unanimously agreed that the secretary be instructed to send an extract from this minute to Mr. Burnet's widow. The meeting then took into consideration the unanimous report of the Council regarding the Royal Infirmary competition, and a letter addressed to the chairman and managers of the infirmary, which had been prepared by them, was approved of and adopted. The secretary was instructed to forward the letter to the chairman and managers, and to send copies to the allied societies and to the public press.

EDINBURGH ARCHITECTURAL ASSOCIATION.

IN the Royal Institution, on the 15th inst., Professor Baldwin Brown lectured to the members of the Edinburgh Architectural Association on "Colour in Architecture." Colour could not, he said, be regarded as essential to architectural effect, though to certain forms of architecture it might add considerable æsthetic charm. Architecture was an art of form, and could express itself, as in the Craigleith stone structures of Edinburgh, the exteriors of Wren, or the interior of St. Front at Périgueux, in France, without any aid from ornament or colour. A monumental building in stone, in which the outward aspect expressed the structure, and the surface texture was an index to the excellence of the material, was, after all, the highest achievement of the art. If the material of the fabric was in itself of a fine hue, this solved the question of colour in the most satisfactory manner, but an architect would think first of the quality of the building material, and not of its tint, and so the principle was maintained. This could be held established in spite of the very numerous and beautiful buildings of all ages and climes which depended largely for their effect on added colour. As a rule they were not of the most monumental materials, but exhibited veneers of marble or plaster over rubble or brick. In the case of these materials, as also of wood and iron, colour was a natural finish, and the most should be made of it. Plaster, as the most widely used of these secondary materials, needed special consideration. The highest form of its polychromy was the mural picture. The lecturer went on to discuss the conditions of mural painting and its prospects in modern days, and the necessity for success of the co-operation of various artists skilled in different kinds of work was insisted on. It was a matter that concerned associations of master painters just as much as Royal Academies. The architect must, after all, be the presiding genius of the work. Especially would he have to see that where there was a colour effect in his own materials the decorative scheme of the paintings should corresponding thereto. He had also, what was more important, to mark out the places where decoration in colour was to come. This had been done very definitely in the Catholic Apostolic Church—externally a monumental stone building, with colour in its material, and internally prepared for mural painting. When this was finished, walls and roofs alike, the whole would be a singularly interesting production of art. The difficulty of the question of the internal decoration of St. Paul's at London was that the architect had finished his interior, save in the roofs, with fine stone-work, beautiful in itself in hue and texture; and the attempt to force colour and gilding upon this, where the architect had evidently never contemplated them, could never be satisfactory. The problem of the choir was less difficult, because there a certain richness existed in the fittings which carried out the decoration on the roof. A vote of thanks was conveyed by the president (Mr. Henry F. Kerr) to Professor Baldwin Brown for his address.

GLASGOW ARCHÆOLOGICAL SOCIETY.

AT the monthly meeting of the Glasgow Archæological Society on the 17th inst., at which Mr. George Neilson, procurator-fiscal of the city, presided, Major Ruck, R.E., of the Headquarters Office, Edinburgh, read a paper entitled "The Antonine Lines as a Defensive Design; a Comparison in Ancient and Modern Principles of Fortification." The Chairman said they welcomed Major Ruck in coming to deal again with the subject of the Roman Wall. They were exceedingly happy in having the benefit of a criticism of the Wall from a military standpoint by one so competent to deal with it.

Major Ruck, proceeding to deal with the subject of his lecture, indicated the fundamental principles for all fortification work, and made a comparison, showing how the Roman engineers carried out those principles precisely as would be done in the present day, after excluding the differences due to the introduction of long-range weapons. He described how the Romans adapted their work most skilfully to the ground, having a watchful eye to economy in construction, provided always that defensive requirements were not sacrificed. The many unexplained details of construction, such as the curious expansions at intervals along the line of the vallum, the intermediate culverts and the strengthening of the vallum at the supporting forts, were commented on, and various plausible theories to account for them were suggested. Major Ruck proceeded to deal with the distribution of the men who would be required to garrison and construct the whole work. By reasoning on the basis of the rules laid down for the great lines of Torres Vedras in 1811, an estimate was made showing that 50,000 men would be required to construct and defend the Antonine lines in six months, including a mobile army for offensive operations. Calculations for the whole of the works were detailed, these being based on the rates of construction for excavating, quarrying, sod-building and digging at the present time. These showed how all the men could be employed in the construction, including masons and quarrymen, sod-diggers and sod-builders, as well as the carriers required. At modern civil contract rates, the sum of 316,800*l.* would be required at the present time to construct the work, assuming the materials (stones and sods) to be the property of the Roman Government, this calculation being based on a detailed estimate over the whole of the lines. By reducing this sum of money to its equivalent in labour at military rates of pay, it would be found that it worked out to just the same number of men which by the rules of modern lines of construction had been previously calculated as necessary to construct and garrison the Antonine, and it also agreed remarkably well with the numbers laid down as actually employed by the inscriptions on the ancient Roman tablets. A rough approximate estimate of the relative cost of the Hadrian lines amounted to a sum of 1,268,000*l.* Major Ruck next submitted a historical retrospect of comparative ancient and modern strategical and geographical lines from the time of the Emperors Antonine, Trajan and Hadrian, and the early times of the Manchu dynasty in China, to the Peninsular war in 1811, including the lines of Torres Vedras, and to the Russo-Turkish war in 1877, including the lines of Buyuk-Tchekmedje, built by the Turks against the Russians. It was clear that no lines, however massive, had ever been able to prevent a luxurious and corrupt race from eventual ruin. He proceeded to deal with the probable sequence in the construction of the Antonine and Hadrian lines, defending the theory that the Hadrian was at first built as a field base for a mobile army, and that afterwards the Antonine was constructed as an advance line, acting also as a secondary base, that then the Hadrian was finally completed as the principal base, or second and last line of defence.

M. Gramme, the eminent Belgian electrician, died last week at the age of seventy-four. Brought up as a carpenter, he attended scientific lectures at Liège, when he showed a talent for machinery, and then went to Paris to a manufactory of lighthouse electric lamps. He next worked under Ruhmkorff and Disderi. In 1867 and 1872 he patented electric batteries and the dynamo. For the latter he received 20,000 francs from the French Government and the Volta prize of 20,000 francs from the Academy of Sciences.

TESSERÆ.

Norman and Anglo-Norman Pound.

THE Norman pound and the Anglo-Norman pound were of the same value under the Norman kings, and were always divided into twenty shillings, each shilling being then, as now, divided into twelve pence. All authorities agree that, in those times, the pound contained three times as much silver as at the present day, but they are by no means unanimous when they proceed to consider how much more three times as much silver was worth in the twelfth century than now. Some estimate the difference so high as twenty to one. Others place it so low as five. According to Hume it is ten, according to Lyttleton and Henry it is five. But whatever may have been the case seventy years ago, there appears to be every reason to believe that the difference between the value of that quantity of silver in the twelfth century and at the present time is, at least, as much as ten to one. We find, in Bishop Fleetwood's "Chronicum Preciosum," that in the time of Henry I. (who reigned from 1100 to 1135), 40 sheep were valued at one pound, and that a stalled ox was worth one shilling. In 1145 an ox was worth three shillings. If we multiply this sum by three, to allow for the diminished quantity of silver, and then by ten, the product will be four pounds ten shillings, a moderate price for a lean ox at the present day. In 1185 the tenants of Shireborn were by custom to pay either four hens or twopence. Apply the same rule, and it raises the price of each hen to one shilling and threepence, a common price for a hen in country markets at the present time. Evidence of this kind is more to be depended upon than the comparative price of wheat in calculations which have reference to so remote a period, because the notices of the price of wheat in those times occur very rarely, and the article itself, from the imperfect state of agriculture and the dearths arising out of the troubled state of society, was subject to such extraordinary fluctuations as to render it, during that period, by no means a safe criterion. We may, therefore, believe that three times as much silver as the pound now contains was worth ten times as much in the twelfth century as at the present day.

Ancient Christian Remains in Greenland.

The remains found in greatest numbers are between latitude 60 deg. and 65 deg. on the west coast, in the districts of Julianshaab, Frederikshaab, Godhaab and Fiskernœs. The foundations of seven or eight churches have been identified, and the ruins of many hundred houses, some small, others large; farms, with their yards and stables, have been examined. The churches are all orientated, and are surrounded by graveyards. The enclosures generally remain; in many cases the stone kists in which the dead were laid, and the slabs which covered them. In the neighbourhood of the churches are usually to be seen the foundations of many private dwellings, stone walls which enclosed cattle, sheepfolds, paved causeways and the remains of bridges. Where there is a church there is generally to be found the basement of a round tower. This is worthy of remark, as it may tend to throw light on the similar towers in Ireland. None of these circular towers have, however, been found perfect. The ruined farms are of very peculiar description, and are built according to the prevailing Icelandic or Norwegian type of the eleventh and twelfth centuries. They consist of a long and narrow hall, called the skali, in which the people ate and drank and sat. In the centre of the hall, nearly the whole length of the floor (golf) ran a hearth, paved, on which one, two or three fires were lighted. These were called the lang eldir. For meals, boards were placed before the fires on trestles, and at the conclusion of the meal they were removed. Permanent broad wooden benches with backs ran the length of the hall; on these the men sat and slept. At the end of the hall, in farms where there were many servants, was an apartment communicating with the hall by a door (stofa). In this the women slept. Some halls were provided with small bedrooms opening into the hall, but open above and under the same roof. These were called lokrekjar or lokhvílir, and were occupied by married couples, or by those who had enemies and were obliged to bolt themselves at night for protection. Each house was provided with a storeroom for clothes and weapons, built separate from the dwelling-house, called the fatabur; barns for the hay, and stables for the cattle (utebur), and conveniences (salerni) about a yard (húsgardr) and distinct from the main building. Every farm was provided with a boathouse (naust), and sometimes with paved landing-places. Way-marks were erected (vördur) by piling stones on prominent rocks to guide travellers over the mountain passes.

"The Surrender of Calais."

The reader of Froissart must recollect the highly picturesque account given by that most amusing old chronicler of the siege of Calais—the heroic defence of the city, and the patriotic devotion of six of the principal burgesses, who, with Eustace de St. Pierre at their head, would have satiated the vengeance of the conqueror but for the intercession of the good

Queen Philippa in their favour. The story has been adopted by every historian, from Rapin to Dr. Lingard; it has frequently been illustrated by the pencil and the graver, and recently M. Rodin has made it the subject of a remarkably realistic work of sculpture; but the evidence of the Rolls for that reign entirely destroys the romantic incident. The queen, who is supposed to have been so moved by the misery of the six burgesses whose lives she had just saved, obtained, nevertheless, a few days after, the confiscated property which one of them, Jean d'Aire, had possessed in Calais; and by letters dated October 8, 1347, Edward conferred a considerable pension on the magnanimous Eustace de St. Pierre as a sort of temporary recompense until he (the king) should be enabled to provide for him in a more suitable way. The motives to this favour were the services Eustace engaged to render by maintaining order in, and watching over the preservation of, the town of Calais; and other letters, dated on the same day, and proceeding from the same considerations, granted to him and his heirs most of the houses and places he had formerly possessed in the town, adding thereto some others. His heirs, however, preferred the service of their ancient master. Eustace died in 1351; and by letters of July 29 in the same year the property he had possessed in Calais was confiscated on account of the defection of his children. Lingard, following Froissart, says that Edward "expelled the majority of the natives and repeopled the town with a colony of his own subjects." On the contrary, a number of French names occur among the persons to whom Edward granted houses in his newly acquired territory. However, Lingard's critical sagacity led him to suspect that Froissart had dramatised the incident with considerable effect, but with little attention to truth. The most probable view of the case is, that Eustace, having been instrumental in persuading his fellow-citizens to surrender the town, was rewarded accordingly by Edward; and the circumstance upon which the worthy chronicler founded his romance, was the fact of some of the principal inhabitants having gone forth in the garb of suppliants to surrender the keys of the town and deprecate the wrath of the victor, a common occurrence in those and in more ancient times.

Classic and Gothic Columniation.

The principles of Gothic architecture allow vast altitude, nor are the proportions lost by expansion; and, what is equally important, the materials out of which all this is achieved still continue obedient to the hand of man. Not so the Grecian architecture. To elevate a temple, according to the true principles of ancient art, requires with an increase of height in the columns an augmentation of size in the stones, and before the portico can obtain an elevation of a hundred feet, the materials have become nearly too heavy for human handling. All this was perceived by the Christian architects, and they imagined they had vanquished the difficulty when they placed one row of columns above another. As far as picturesque splendour is useful they succeeded; but they succeeded at the expense of propriety and truth. The porticoes and colonnades of the Grecian temples were useful as well as beautiful, for in Greece they made nothing without a meaning. Men found shelter there from sunshine or from shower; and, that their time might not be wasted, historical sculptures extended all around, reminding them of the deeds of heroes and the acts of the gods. But under the second row of columns, and within the upper porticoes of the new style of architecture, birds and angels alone could find shelter.

The Athenian Propylæa.

Through the Propylæa of the Athenian Acropolis moved the periodic processions of the Panathenaic Jubilee. The marks of their chariot-wheels are still visible on the stone floor of its entrance. In the narrow space between those two ruts in the pavement the feet of the noblest Athenians since the age of Pericles have trod. Here, above all places at Athens, the mind of the traveller enjoys an exquisite pleasure. It seems as if this portal had been spared in order that our imagination might send through it, as through a triumphal arch, all the glories of Athenian antiquity in visible parade. In our visions of that spectacle we would unroll the long Panathenaic frieze of Phidias, representing the procession, from its place on the marble walls of the cella of the Parthenon, in order that, endued with ideal life, it might move through this splendid avenue, as its originals did of old. The erection of the Propylæa was commenced at the most brilliant period of Athenian history. The year itself, the archonship of Euthymenes, in which the enterprise was undertaken, seems to have been proverbial for its sumptuous conceptions. The Propylæa were completed in five years. They were henceforth always appealed to as the proudest ornaments of the Athenian city. The day in which it should be their lot to guide their festal car in the sacred procession through this doorway into the citadel was held out by fond mothers to their aspiring sons as one of the most glorious in their future career. Even national enemies paid homage to the magnificence of the fabric; for when in the Theban assembly Epaminondas intended to convey to his audience that they must struggle to transfer the glory of Athens to Thebes, he thus expressed that sentiment by a vivid image, "O men of Thebes! you must uproot the Propylæa of the Athenian Acropolis and plant them in front of the Cadmean citadel."

English and French Mouldings.

English art ever excels in detail; but French art, while it excels in picturesque massing and complex outline, exhibits a certain poverty and sameness of detail beyond a given point of excellence. To take one great factor of design—mouldings. The Frenchman's mouldings never can satisfy the Englishman who has drunk deep from the waters of our native land. To one who knows the Yorkshire abbeys, Tintern, Winchester, Gloucester, Malvern, Norfolk, Suffolk, and that queen of English counties, Somerset, with its vast wealth of stately fifteenth-century fabrics, the French mouldings seem either overdone or underdone in thought. His strong mouldings seem coarse and cumbrous; his graceful mouldings attenuated and over-refined; his playful mouldings tricky and fantastic, as in those frisky members which, beginning in an obscure corner, gradually increase in importance, and, after an elaborate game of hide-and-seek, in interpenetration with other members, and after numerous capricious transformations, and the survival of all manner of obstructions, are carried through the whole piece, and end with an air of proud satisfaction that seems to call for loud bravos at the cleverness of the achievement. English mouldings are just as eloquent of national character, and it is impossible to exaggerate the importance given to this province of design in all English art. English love of detail and English love of harmony and English sobriety come out clearly in our mouldings We see that the soul of the workman is in his sectional lines, which are trenchant or sprightly or grave, according to the temper of the moment. A bit of good Early English or Decorated or Perpendicular moulding will both please the eye and gratify the mind, and while we revel in the fine curvature, we may read through the steadfast lines the mental travail which produced them; and whether the qualities of the work tell of grace or force or ingenuity, we are somehow made to feel that behind and beyond all that is expressed there remains the weight of a noble character, which has a large capital of solid thought and being still in reserve.

GENERAL.

Mr. Yeend King was elected vice-president in the place of the late Mr. E. M. Wimperis at the last general meeting of the Royal Institute of Painters in Water-Colours, Piccadilly.

The Governors of the Glasgow Technical College have prepared instructions for the competitors for the new building which is to be erected in George Square in that city.

The Sanitary Institute commence their thirty-first course of lectures and demonstrations for sanitary officers on February 1.

A Public Meeting was held in Leith on Monday, when the following resolution was adopted unanimously:—"That this meeting is of opinion that there is urgent necessity for a public hall being erected in Leith, and resolves to request the Town Council to reconsider the question and to look out for an eligible and central site for the provision of a public hall."

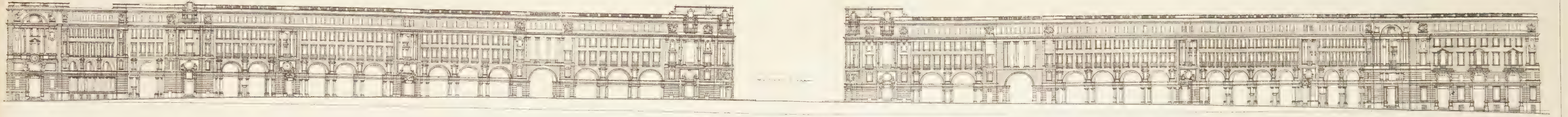
A Petition has been presented to the Godalming District Council against the proposed demolition of the old town hall to make room for local improvements. The petition has been signed among others by Princess Christian, Princess Louise and Prince Albert of Schleswig-Holstein. The building was erected at the Jubilee of George III. As a result of the petition a recommendation will be presented at the next meeting of the Council in favour of the preservation of the old-world town hall.

M. Georges Lutz has presented to the Louvre Cabet's celebrated piece of sculpture, "La Sortie du Bain."

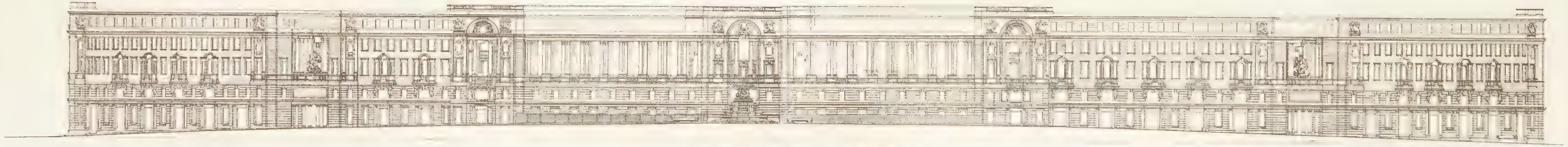
A Society has been founded in France, composed of marine painters, having for an end an annual exhibition to be called "Le Salon de la Mer." M. Tattegrain is the first president.

The Royal Academy Notice to Artists, 1901, announces that water-colours, miniatures, black-and-white drawings, engravings, etchings, architectural drawings and all other works under glass must be delivered on Friday, March 29; oil-paintings on Saturday, March 30, and Monday, April 1; sculpture on Tuesday, April 2. No work will under any circumstances be received before or after these specified dates.

Messrs. Eyre & Spottiswoode have introduced a new foreign ink—"The Pictor"—for draughtsmen, which is exempt from the defects of many substitutes for Indian ink. It flows freely from the drawing-pen, and the lines will not blur or vanish when washes of colour are laid over them. The ink will save time and trouble in the offices of architects and engineers.



NORTH SIDE of CRESCENT



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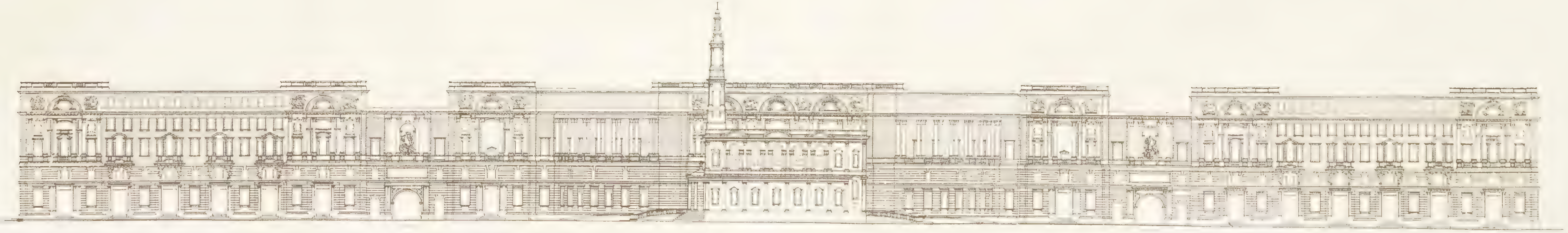
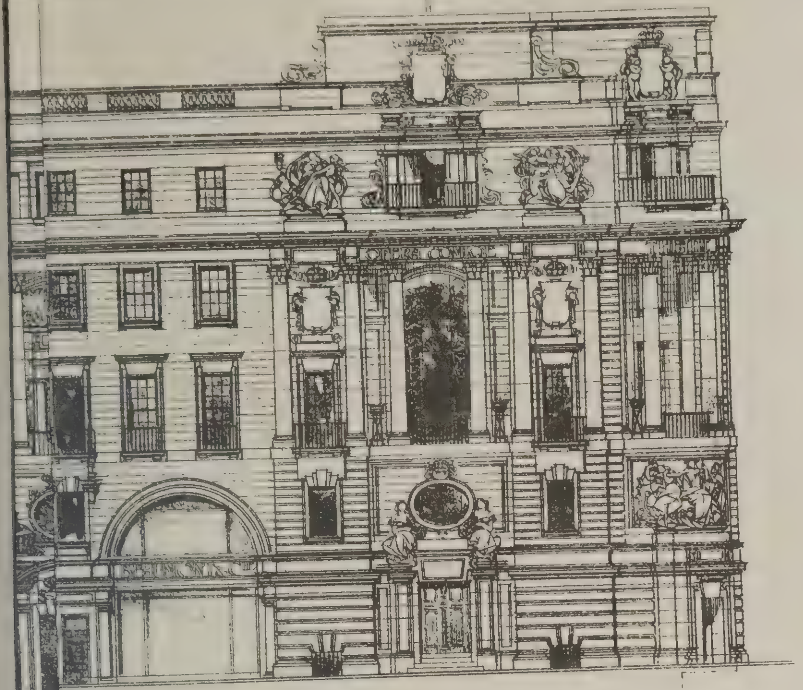


STRAND FRONT

THE LONDON COUNTY COUNCIL HOLBORN AND STRAND IMPROVEMENT. DESIGN No. 29.



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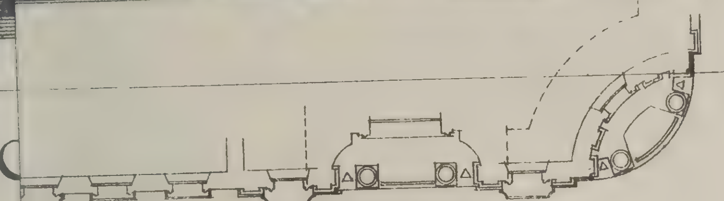
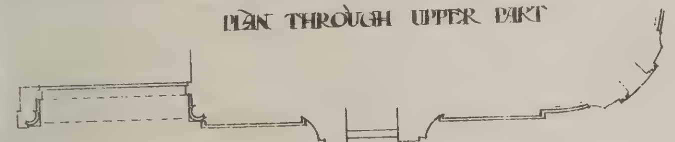
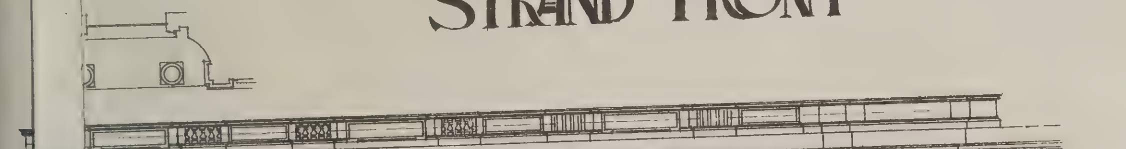


PLAN THROUGH UPPER PART



PLAN AT GROUND LEVEL

STRAND FRONT



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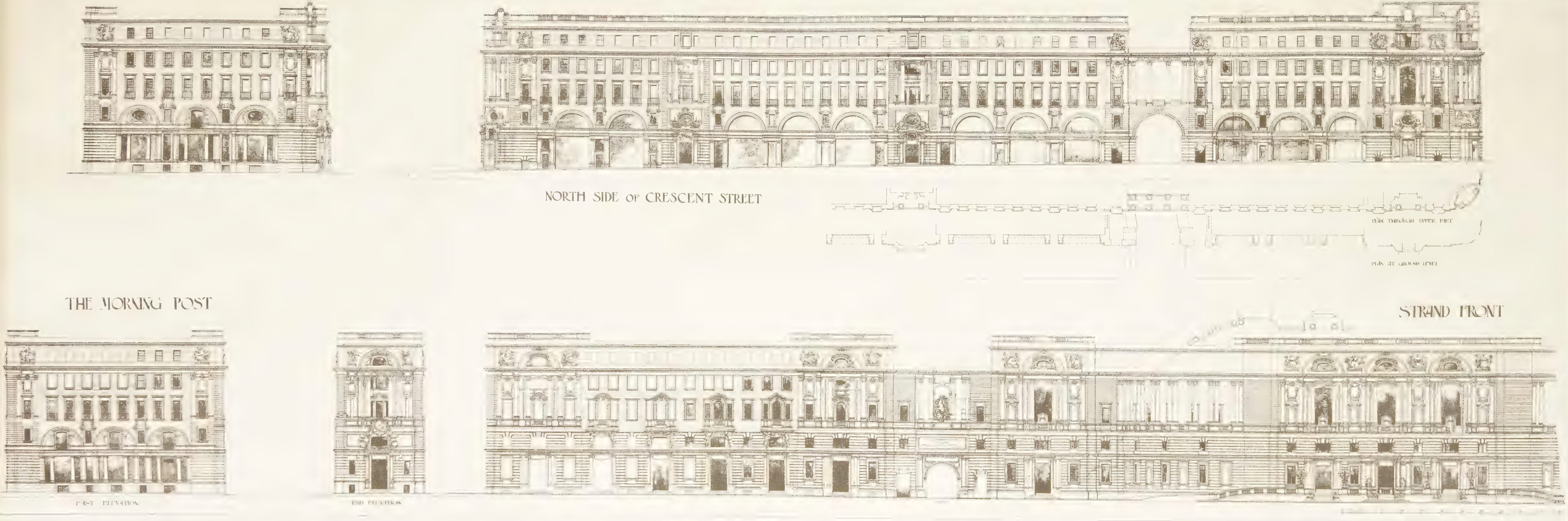


The London County Council Holborn and Strand Improvement. Design No. 29.

The Architect.

THE WEEK.

The late General Pitt-Rivers, who was an enthusiastic student of prehistoric archæology, erected a museum on his estate at Farnham, Dorset, to contain his collections. There are also many books and volumes in it containing accounts of his excavations and discoveries. The museum is open on weekdays and Sundays throughout the year. The General was desirous that his museum should be kept up in the interest of students and of all who would have curiosity to visit it. But he did not wish that in the future the proprietorial rights of his successors should be abolished. The public were as free in the museum as in any of the national museums. But it still remained private property. In his will the General bequeathed the museum and its contents to his eldest son, but he also assigned a sum of 300*l.* yearly for keeping the building and its contents in a state of preservation. Dualism of that kind is a novelty in English law, and a friendly suit was accordingly commenced to define the rights of the different parties—the public, the present owner of the estate, the heir expectant and trustees. Mr. Justice Kekewich was compelled to own that the various interests were not easily reconcilable with the testator's intentions. But as the best way out of the difficulty, his Lordship said a declaration would be made that the present owner of the estate and his successors had accepted the property subject to a secret trust for the maintenance and user of the museum and grounds. The public will therefore be as free to visit the museum as before, and the museum hotel will no doubt continue to be open to accommodate some among them.

The Town Council of Canterbury are in a difficulty concerning the asylum which is in course of construction. Originally it was estimated that the building was to cost about 53,000*l.*, and power to borrow 60,000*l.* was obtained. Then various additions were proposed, and the estimate amounted to 70,000*l.* Delays are dangerous nowadays in building, and the architect informed the asylum committee of the great increase in price of materials and labour. Last year the cost of the work was variously estimated from 90,000*l.* to 120,000*l.* A deputation of the Corporation lately interviewed the Lunacy Commissioners on the subject, and described the hardship of so small a city having to dispense so large a sum of money. The Commissioners said that the Council could fall back on the 70,000*l.*, and it was agreed to sacrifice some of the buildings with that object. It is extraordinary that so much elasticity is possible in dealing with such an important matter. Mr. Jennings, the architect, stated to the Council that he could not pledge himself to 70,000*l.* being adequate expenditure. All that was possible was to provide a building in which 170 patients could be housed, but that was different from erecting a complete asylum for 170 patients.

Contractors who employ traction engines should be careful about the weight of the loads which are drawn, as otherwise they are likely to be held responsible for damages for which they were only partially liable, if at all. A case heard last week in the Bakewell County Court is an example of the manner in which liability is assessed. Messrs. Roper, of Sheffield, were sued by the Bakewell Rural District Council for 48*l.* 16*s.* 5*d.*, the cost of repairing a road in the parish of Eyam Woodlands. The road was not a high road, and was not in the best condition. Moreover, several traction engines belonging to other people had passed over it. Judge Smyly, Q.C., in giving judgment, said that the Act enabled either the person whose contract caused the damage, or the person who in fulfilment of the contract caused the damage, to be proceeded against. In the present case the Sheffield Corporation might be sued, but he did not think they must be proceeded against; it would be difficult to trace the stone from the quarry to the particular buildings which the contractor was putting up for the Sheffield Corporation. He believed the traffic caused by the traction engine was an extraordinary traffic, and that the load was an excessive one in weight for the way in which the road was constructed, and for the way in which it had previously been used, and also that those excessive loads were brought at excessive and extraordinary frequency. Other traction engines had run over the road, but with nothing like such loads or with such frequency as the defendants'. With respect to the question of damage, it was shown that the average cost in past years had been something like 5*l.* or 6*l.* per mile, taking all the roads in the parish. Even doubling or trebling the cost during the first six months, there still remained as much as the plaintiffs claimed, and he thought, therefore, that the damages were by no means excessive, but was a fair amount. His Honour then gave judgment for the sum claimed, 48*l.* 16*s.* 5*d.*

M. Bouguereau has been elected president of the committee of the Society of French Artists. The sectional presidents have been also elected as follows:—M. Henner, painting; M. Frémiet, sculpture; M. Mauron, engraving; M. Alfred Normand, architecture; and M. Guadet for the decorative arts. The representatives of architecture in the administrative committee are MM. Chancel and Formigé. The committee have an arduous task before them. The delays have caused many to believe in the impossibility of having a Salon this year. It will therefore be necessary not only to make arrangements for the exhibition, but to inspire confidence in many artists and to persuade them to complete works which were temporarily abandoned.

The Municipal Council of Paris have at length discussed the project of purchasing the ground occupied by the fortifications around the city, but without any satisfactory result. Some members think that the land, when cleared, should be made over to the city gratuitously, in order that it might be converted into an open space which would improve the sanitary conditions required in so important a capital. There are others who are afraid that if the Municipality do not promptly secure the ground they may be anticipated by land companies, who will be more difficult to deal with than any Ministry. M. Bouvard, the director of the services of architecture, estimates the outlay to be from 230 to 240 millions of francs, whilst returns would amount to 108 millions. But in spite of the difference he is in favour of making arrangements with the State. It was also said that Paris already possesses too large an area of vacant land. Eventually it was decided to enter into negotiations with the Government on a new basis, which apparently is the right of the city to obtain the ground without cost.

The meeting for the presentation of prizes and studentships at the Royal Institute of British Architects announced for Monday, February 4, is postponed till Monday, February 25, at 8 p.m., in consequence of the lamented death of Her late Most Gracious Majesty Queen Victoria, patron of the Royal Institute. The Institute will be closed on the day of the Royal Funeral, Saturday, February 2. At the meeting of February 25, an address of condolence to His Majesty will be moved from the chair at 8 p.m.

The School of Applied Arts in Edinburgh, which was started by Dr. Rowand Anderson, has reason to be satisfied with the success of former students in the competition of the Royal Institute of British Architects. For the Owen Jones Studentship six competitors entered, four of them being from the School of Applied Arts. The certificate and 100*l.* (for travel and study of decorative colour) was gained by Mr. J. Hervey Rutherford. A medal of merit was awarded to Mr. Ramsay Traquair and to Mr. Percy E. Nobbs. The Grissell gold medal and 10*l.* 10*s.* for design and construction was awarded to Mr. J. Edwin Forbes out of eighteen competitors. For the Tite Prize, certificate and 30*l.* (design for an entrance gateway to a public park) twenty-six competitors entered, and it awarded to Mr. Walter Fairbairn. Mr. J. Forbes Smith obtained the medal of merit, being the second award in the competition for the Tite Studentship. There appear to be no students from Scotland except those educated in the School of Applied Art who gained any award in the competitions.

OLD BUILDING LAWS.

THE first Building Act of any general importance which was passed in England is that known as 19 Car. II. cap. 3. It became law in 1667. The Act prescribed regulations for the rebuilding of London after the Fire. One clause threatened that any house which was not in keeping with the Act was to be deemed a common nuisance, and the builder was to enter into a recognisance to demolish his creation or amend it, and in default was to be committed to gaol without bail until it was demolished or amended. Failing the builder the Court of Aldermen were empowered to take down irregular houses. It would be a great advantage in our time if so prompt a method could be employed when dealing with insanitary property. Four classes of buildings were recognised by the Act, viz. (1) those in by-lanes, (2) in streets and lanes of note, (3) high and principal streets, (4) mansion-houses for citizens or persons of quality. The Lord Mayor, Aldermen and Common Council were to decide about the character of the streets, and to have them staked out. Anyone removing the stakes without lawful authority was liable to a fine of 10*l.*, or three months in gaol. But if the culprit were unable to pay, in some cases he was to be flogged near the place where the offence was committed. It was ordered that the outsides of the new buildings were to be of brick or stone, or brick and stone together, with the exception of door cases, window-frames, bressomers and other parts of the first storey, which were allowed to be built of oak in order to provide for shops.

In the by-streets or lanes the houses were to be two storeys high, besides cellars and garret. The cellars were to be 6 feet 6 inches deep, if springs of water allowed; the first and second storeys were to be each 9 feet high from floor to ceiling. All walls in front and rear were to be of the thickness of two bricks in length, and above the two storeys a brick and a half. In the second class of buildings the houses were to have three storeys besides cellars, the heights being 6 feet 6 inches (cellars), 10 feet, 10 feet and 9 feet. In the third class there were to be four storeys besides cellars and garrets, the heights being 10 feet, 10 feet 6 inches, 9 feet and 8 feet 6 inches. The fourth class, or mansions, were to have special dimensions. It was ordered that the water falling from the roofs, balconies and pent-houses was to be brought by a conduit to the channel, and the pavement was to be constructed of broad flat stones. At the time a pavement was private property, although the public might walk on it. In some old Dutch towns the principle is still recognised, for posts and chains mark the extremities of a tenement, and in order to pass from one shop to another adjoining, it is necessary to step into the roadway. The first floor over a cellar was not to be more than 18 inches above the street level, or less than 6 inches, and the approach to the floor was to be by a circular, or rather semicircular, step. There were to be no trap-doors or any open gratings or lights. In high streets stall-boards were to be allowed to turn over 11 inches when the shop windows were open.

Three years afterwards another Act was passed, which suggests some of the defects of the first attempt. In those days, as now, several people might have a joint interest in a building. Evidently it was not always easy to prevail with the whole of them to rebuild their premises. A clause was therefore introduced that one or more of the co-partners or joint tenants could rebuild a house or houses as the same were before the Fire, and the refractory partners or tenants would have to pay a portion of the cost, with interest on the outlay at the rate of 6 per cent. It is evident, also, that surveyors were appointed in the interval. In the original Act "one or more discreet persons, intelligent in the art of building," were to be appointed to serve as surveyors, but in the second Act there are references to special surveyors in the City, who were to decide questions of value or apportionment of ground, dimensions of oak timber and so on. It was likely that the citizens, being desirous to follow their trades as quickly as possible, were not particular about the character of the foundations. In the first Act there was no reference to the subject, but in the Act of 1670 it was decreed that a builder was not to lay a foundation till the surveyor had seen the ground. The builder was then to pay 6*s.* 8*d.* to the Chamberlain, after which the surveyors were to set out the foundations. It might, however, be inferred that the fees were of more importance than stability in building, for it is said that all builders who have already laid foundations shall also pay to the Chamberlain the same sum.

When we mentioned above about the Act for the rebuilding of London after the Fire being the first comprehensive series of regulations for building, it must not be supposed that Parliament was altogether indifferent to the condition of towns. In the reign of Henry VIII. there were as many as six Acts passed for the repair of decayed houses and building on waste ground or the re-edifying of certain towns. In fact, it seemed as if almost every important town in the country came under the operation of the Acts. In 1536 Nottingham, Shrewsbury, Ludlow, Bridgenorth, Queenborough, Northampton and Gloucester were dealt with. In 1540 there were two Acts of a like kind, in 1541 a fourth and in 1543 a fifth Act.

There were also special Acts, such as one passed in Elizabeth's reign in 1571, which ordered that the streets of Ipswich and the suburbs thereof were to be paved with good paving stone, and for ever repaired by "the owners, landlords or terre-tenants along, from and against their houses, lands and tenements, adjoining to the street." In London paving Acts had to be limited in their operations to special districts. Unless otherwise agreed on, a tenant was able to deduct from his rent whatever sum he was obliged to expend on work of that class. The laws concerning workmen should also be considered as relating to building regulations. For example, a plasterer by a statute passed in the reign of James I. was prohibited from doing painters' work in London and the suburbs. He might use whiting, blacking, red lead, red ochre and russet. But the colours must be mixed only with size, and not with oil. A painter could not receive more than 16 pence a day for laying any flat colour, mingled or mixed, with oil or size, and used upon timber, stone or lead. Building materials were also made the subject of law. One of Edward IV.'s Acts, dated 1464, ordered that a plain tile was to be 10½ inches in length, 6¼ inches in breadth, and five-eighths of an inch in thickness. A roof or cross-tile was to be 13 inches, and a gutter or corner tile 10½ inches long. Tiles were to be made of earth cast up before the first of November, turned before the first of February, and not used for tiles before the first of March, and all stones, malm or chalk were to be separated from the earth. Any tile otherwise made caused the vendor to be liable to pay double the value, besides a fine and ransom at the king's will. The justices of the peace were authorised to appoint "searchers of tile," who, if they failed to diligently exercise their office, forfeited to the king 10*s.*

The legislators who drew the Act for regulating buildings in London in 1667 could have found precedents in French practice. In London there was almost a clear field for operations. But in Paris improvement or alteration could only proceed, as it were, step by step. For instance, in 1667 an order was made that no pignon or gable end was to have a round or square top. Another order was that partitions were to be covered with plaster in order to check the spread of fire. The Provost of Paris as far back as 1600 issued an ordonnance requiring that what we now would call the "building line" should be respected. In the English laws builders were held responsible. For common sense must have perceived that workmen were compelled to act on the instructions of their masters. But in Paris the Provost addressed himself to masons, carpenters, joiners and other workmen or artisans, and prohibited them from executing any work in Paris or the suburbs unless they had been informed of the building line by the proper officers. No projections were allowed without proper sanction. Any breach of the regulations involved a fine of fifty crowns as well as imprisonment and the demolition of the work done. No doubt Paris was, according to all representations, a city where projections abounded. But by the new rule only platforms resembling the English stallboards were allowed to project beyond the frontage. The Paris masons were prohibited from cutting stones in the street or to deposit materials there for more than twenty-four hours. The proprietors as well as the workmen were held responsible. It is possible that in the seventeenth century general contractors were unknown in Paris, and the masons, carpenters and other workmen may have been special contractors or master workmen with a few men under them.

In 1608 the French Parliament approved of an ordonnance in which at greater length it was laid down that not only in Paris, but in the other cities of France, the lines of streets should be respected. An organisation was created under a "grandvoyer" and other officers to have the law carried out, and there was to be no evasion by corbelling—in fact, projections were not to be tolerated. The pavement was also to be kept in good order, and if there was any refusal by occupants to carry out the work the premises could be closed. Probably the citizens of Paris were not very eager to transform their own city. The interpretation of the orders was disputed. In 1683 Louis XIV. found it necessary to once more declare his royal will on the subject. He confirmed the preceding edicts, and announced that stone steps, sills or boundary stones at houses or shops should not extend more than 8 inches beyond the face of the wall. Holes could not be opened in the pavement for scaffolding without special permission, and the replacing of the stones was to be the duty of the paving contractor of the district. Beams and other materials were not allowed to be left in the streets. No balconies were to be built without special permission, and with the consent of the neighbouring proprietors. Two years afterwards we find regulations by the "Maître-Général des Bâtiments" dealing with foundation walls. The mortar used was to be made of two parts of gravelly sand and one part of lime. Then in 1693 there was another royal declaration by which the "Commissaires de la Voirie" became the overseers of nearly every part of a building. Anything that could be assumed by the official mind as interfering with the public way required a permission which cost four livres, and a flower-girl, an old woman who sold salt, or the humblest street merchant, was also compelled to purchase official sanction for carrying a basket. We may now judge severely of the municipal arrangements in England, but there is no question that those who issue them would be able to bring forward precedents for the most severe by-laws by a search among edicts which bore the signature of that great patron of the arts, and especially of architecture, Louis XIV.

ENGINEERING ARRANGEMENTS IN PUBLIC BUILDINGS.

By F. J. Warden-Stevens, A.M.I.M.E., A.M.I.E.E.

THE conditions existing in large public buildings like asylums, workhouses, hospitals, orphanages and the like are such that the engineering works, which include cold and hot-water supply, heating, lighting and power arrangements, are really very important items of expenditure. The large size of some of these institutions also renders it necessary to consider the engineering work from quite a different point of view to that frequently adopted.

The controlling authorities often consider that if water, gas or electricity is obtained from the public mains the best course is adopted that is possible, and the heating and power arrangements are then generally dealt with by means of small plant which is under the control of a mechanic in a subordinate position.

The object of this article is to show that such a policy is a serious mistake, and that in many cases a large annual saving would be effected by independent or perhaps a combination of plant.

The creating of an important engineering department renders it necessary to entirely reorganise the arrangements and control, chiefly in the direction of having expert advice in the carrying out of the scheme and a competent engineer to take charge after completion. There are now, unfortunately, many cases where plant valued at many thousand pounds, with an annual expenditure of several thousand, is under the control of a non-technical superintendent and is being attended to by a working mechanic; at the same time the board of control may consider that the arrangements are economical because the labour account is low.

It is, of course, impossible in an article to give general remedies for the evils which exist, as the conditions vary to a great extent; but an attempt will be made herein to point out the direction in which improvement is necessary, and to show the defects in policy which are the chief cause of the errors.

In the first place, it might be pointed out that with a new building the engineering arrangements are more or less neglected at the outset, and that the original estimates are most frequently drawn up by those, as a rule, who cannot be expected to possess a sufficient knowledge of engineering matters to have a fair conception of the importance of the problems, and especially their financial bearing. In other words, the equipment of the engineering work is inclined to be placed under the heading of "incidentals" without the matter being thoroughly considered—in fact, the right class of knowledge is frequently not obtained to enable the question to be thoroughly dealt with even if so desired.

It is well known that local bodies are severely criticised if the cost of a public building exceeds the original estimate, and so it follows that when the building contracts, &c., have been placed, engineering arrangements are likely to be adopted, the cost of which will not exceed to any large extent a sum equal to the balance of the estimate. It will, therefore, be readily seen the moral of this is that a consulting engineer should be appointed at the outset to consider the engineering problem, either independently of, or in conjunction with, the architect for all large buildings.

A considerable increase of working expenditure generally arises when extension becomes necessary, which is inevitable. For example, the heating plant is extended to take in enlargements of buildings, and it is found that the original system is not capable of dealing with the altered circumstances, so another heating plant is provided independent of the first, exhaust steam is conveyed down the drains, and live steam is used where the exhaust steam might have been utilised. A laundry is perhaps added, with another separate plant, and what with one extension and another the final result is that there is not harmony and no co-operation. There are several separate boilers requiring attendants scattered about the buildings, and none of them sufficiently large to be efficient, either as regards coal consumption, attention or maintenance. In addition to these defects, the unqualified engineer frequently does without such requisites as pipe lagging, steam traps, and return condensed water-pipes.

Regarding the question of water supply, it may be that by sinking a well several hundred pounds a year could be saved. Often the pressure supplied by the water company is inadequate for a good fire service, and more often drinking water is paid for at the rate of per thousand gallons, this same water being used for flushing purposes, when a subsoil supply of water of quite sufficient purity for these purposes is available. Again, water storage tanks are small and scattered, and are placed where they form receptacles for dust and dirt and where they cannot be properly cleaned out, becoming, as they often do, a danger to the general health.

Referring to heating, it is well known that heating by open fires is one of the least economical methods possible, especially for large spaces. The heating is only local, and the cost of coal excessive. A *well-designed* system will very soon repay the capital outlay in the reduction of coal expenditure, but otherwise it will often be more costly than open fires. The utmost use should be made of all condensed steam and exhaust steam from engines in use, in, say, the provision of a hot-water supply.

As regards lighting, electricity might be generated on the premises in many cases at a much less cost than by taking a supply from the public mains, bearing in mind that steam is also required for other purposes, and that the exhaust steam can be utilised.

Economy may also be effected often by the use of electric motors for driving pumps, laundry and bakery machinery and other plant to be found in a large institution. Where a private plant is being adopted for lighting, and where these various items of machinery are scattered, it will nearly always be economical to extend the electrical plant and use motors.

Usually these individual improvements are introduced later, but again at the expense of co-operation. It might have been possible at the outset to have one works supplying all heat, light, power and water required, with probably half the annual or capital outlay, but later the authorities refrain from the cost of dispensing with their inadequate and inefficient plant and adopting newly organised arrangements.

A case which I have in mind might here be cited, where open fires are used for heating. There are some six scattered boiler arrangements for hot-water supply, each requiring a stoker; four methods of heating water are in existence; a large quantity of hot water and steam finds its way to the drains; pipe lagging is absent; there are miles of hot-water and steam pipes not in use, but connected up to the mains. In one position there are boilers working at three different pressures; the chimney is inadequate, so an iron chimney and vertical boiler was adopted as an extension; the main boiler-house is incapable of further extension, owing to adjoining buildings. Power is supplied by a steam-engine to the laundry, but when the bakery required power a gas-engine was adopted, because the boilers were overloaded and could not be extended. The water-tanks are scattered over the whole of the premises, in roofs, &c.; the water account is heavy, a large quantity being used for flushing purposes. A total annual outlay of over 3,500*l.* per annum is incurred (exclusive of interest on capital); the engineer in charge is a very worthy and no doubt valuable servant, but he is more or less of a working mechanic, so therefore it may be said without injustice he is incapable of devising economical arrangements, and no proper accounts are kept.

The authorities are now, under expert advice, disposing of a considerable portion of the old plant which is not of use for the new arrangements which have been devised; they have purchased a new site for the works, which are to supply all the light, power and hot and cold water required over the entire premises from one centre, and although about 14,000*l.* will be expended on the undertaking, the result will be a net saving of probably 1,000*l.* per annum, without taking into account the benefits derived in increased convenience and general comfort to the inmates and officials.

The whole of the engineering arrangements will be thoroughly controlled, and every item of cost carefully noted in order to discover and check waste in every direction.

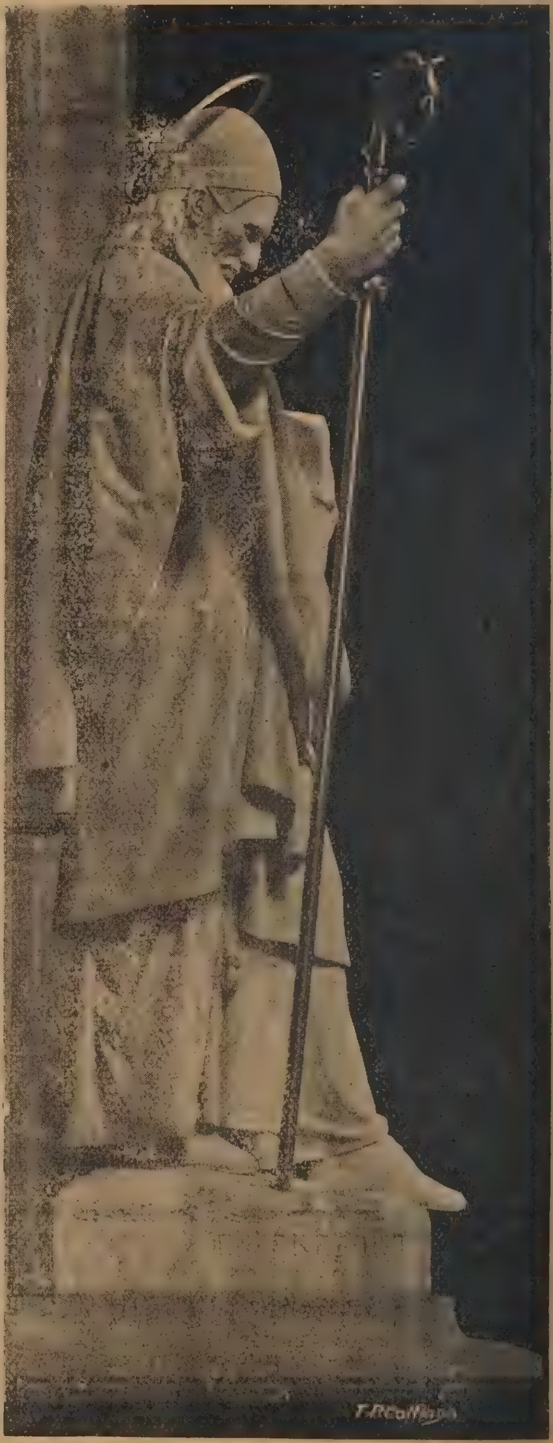
It is essential that in the case of old institutions which have extended gradually, a thorough investigation be made to ascertain, in the first place, the existing conditions, and secondly, the best means of reorganising the engineering arrangements, so that they work together harmoniously, waste in one portion being utilised to the fullest extent in another, instead of being entirely rejected. For instance, the heat in exhaust steam of electric-light engines might be utilised for a hot-water supply, the electric-light plant being used in the day for power supply, and heat going to waste in boiler flues for heating feed water or assisting the hot-water supply.

Of course many of the newer institutions could be reorganised without an entire clearance of existing plant. Much of the present plant could be utilised, no doubt, but until the matter is looked upon as one of the greatest importance, until the engineering arrangements are worked on strictly financial lines and a reasonable capital outlay is allowed with the result of ultimate economy, and until the board of control seek expert advice for the engineering as well as for the architectural scheme of an asylum or institute there will be serious losses, and the policy will be one of false economy in capital outlay and heavy annual cost.

Glasgow Master Masons' Association.—The annual meeting of the Master Masons' Association of Glasgow and neighbourhood was held on Tuesday. The committee's report for 1900 stated that the trade had not been so prosperous in the past year as in the five years immediately preceding it, and that the outlook was not good. Several alterations in the working agreement between masters and operatives were noted as having been agreed to by both bodies sitting in conference. The relations of the masters and men had continued most amicable, as indeed they had been since the institution of the working agreement some sixteen years ago. The election of office bearers for the ensuing year followed:—President, Peter M'Kissock: vice-president, J. B. M'Callum; treasurer, George Barlas.

FRÉMIET'S "ST. MARTIN OF TOURS."

THE illustrations we have given of his *St. George* and the *Duc d'Orléans* will demonstrate M. Frémiet's skill in the difficult task of representing equestrian figures in armour. His *St. Martin of Tours* shows his ability when treating figures of another class. In this case it was necessary to introduce the peculiar canonicals of bishops in the fourth century, as well as to suggest the relation of the saint to the Roman Empire.



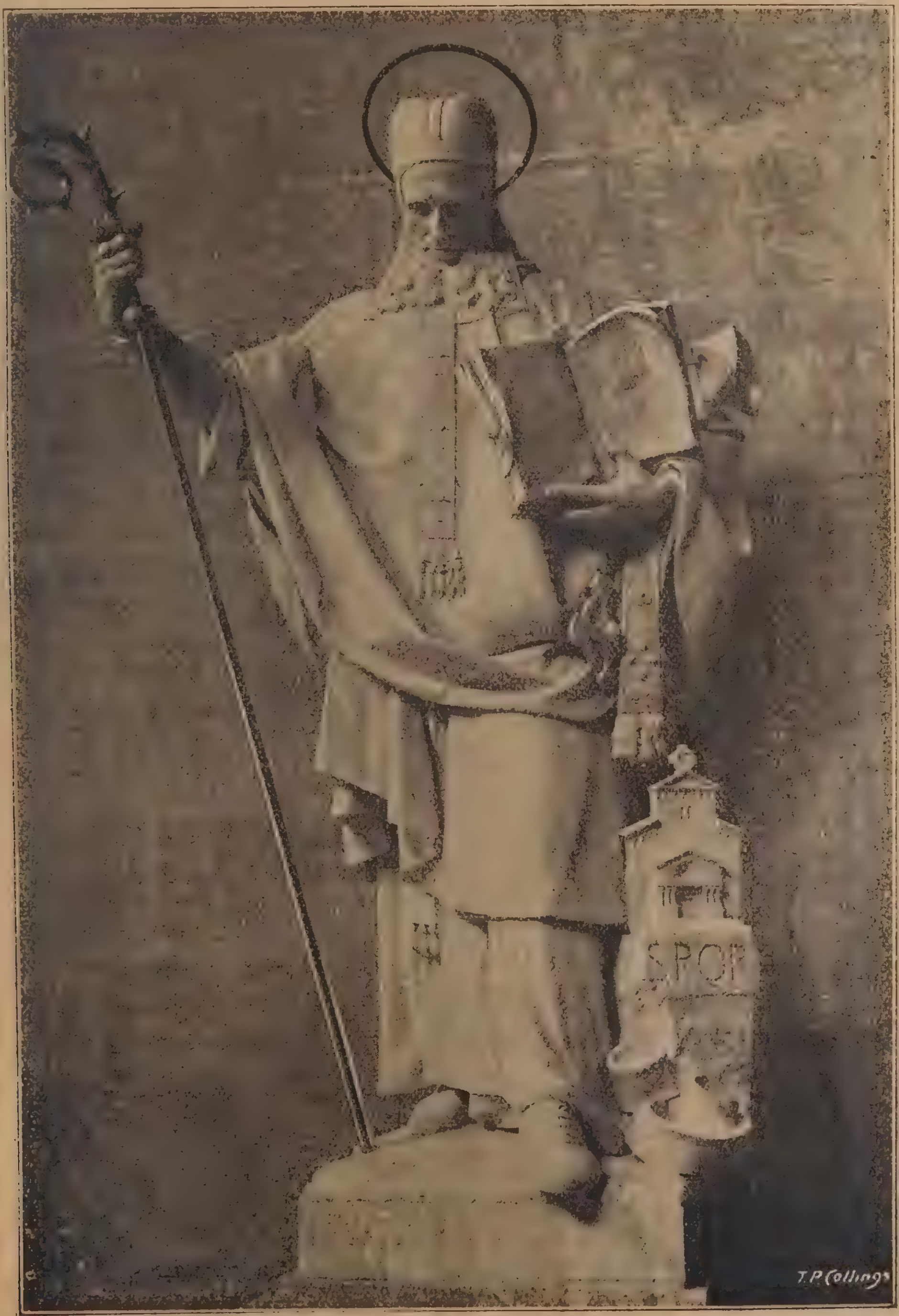
ST. MARTIN OF TOURS. By Emmanuel Frémiet.

St. Martin is not altogether strange to Englishmen, for, as Mr. Ruskin says, "St. Augustine baptized his first English converts in St. Martin's Church at Canterbury, and the Charing Cross station itself has not yet effaced wholly from London minds his memory or his name." The saint has also been popularised by means of pictures, for he was the Roman soldier who, on a cold winter's day, cut his cloak in two and gave it to a naked beggar he met outside one of the gates of Amiens. The scene was a favourite subject with painters. It is also related that when he was Bishop of Tours he was no less liberal in dispensing with his cope to bestow it as a covering for some unclad wanderer. According to Mr. RUSKIN, these acts of charity were all of a piece with the kindness and rightness which made of him an extremely exemplary saint. The critic says:—"St. MARTIN teases nobody, spends not a breath in unpleasant exhortation, understands by CHRIST'S first lesson to himself that undipped people may be as good as dipped if their hearts are clean; helps, forgives and cheers (companionable even to the loving cup) as readily the clown as the king; he is the patron of honest drinking: the stuffing of your Martinmas goose is fragrant in his nostrils, and sacred to him the last kindly rays of departing summer. And somehow the idols totter before him far and near."

St. MARTIN is believed to have been born about A.D. 316 at Sabaria, a city of Pannonia. His father was a military tribune. He was educated at Pavia, where he became a Christian catechumen, joined the army, and while stationed in Gaul the incident of giving away his cloak took place. But military life did not suit his disposition, and he applied to the emperor for permission to resign. JULIAN accused him of fear, but MARTIN offered to lead his cohort unarmed into battle, bearing only the emblem of the Cross. He was taken at his word, but when subsequently an opportunity arose to prove the courage of an unarmed warrior the enemy at the last moment submitted.

On retiring from the army he led the life of a solitary for several years. He received minor orders from HILARY, Bishop of Poitiers. He returned to his native Pannonia to oppose the Arians. From thence he passed to Milan, where the heresy was strong. He is next heard of at Poitiers, where he founded a monastery, but in 374 he was taken by force from it in order to be consecrated Bishop of Tours. He was not a man who cared much for episcopal opulence. In order to escape from the public life which surrounded him, he built another monastery at Marmoutier, where he lived with eighty monks. From time to time he left it for missionary labours throughout Gaul.

The Roman emperors knew how to appreciate a priest who possessed such wide influence. He used his position in order to obtain mercy for others. When he found that his appeals for a reprieve of the Priscillianists, who were judged to be heretics by some Spanish bishops, were un-



ST. MARTIN OF TOURS. By EMMANUEL FRÉMIET.

heeded by the tyrant Maximin, the saint showed his indignation by turning away from the Court at Trèves. He is affirmed to have been the first of the Confessors of the Latin Church who received public reverence.

In one respect St. Martin, with all his goodness and breadth of character, was unable to rise above the prejudice of his time. In Gaul, says Gibbon, he walked ahead of his faithful monks to destroy the idols, the temples and the consecrated trees of his extensive diocese. The historian records that although by the terms of the commission the property of the temples was to be confiscated for the benefit of the emperor, the Church and the army, the naked edifices which were no longer employed in the service of idolatry might have been protected. "Many of those temples," he says, "were the most splendid and beautiful monuments of Grecian architecture; and the emperor himself was interested not to deface the splendour of his own cities or to diminish the value of his own possessions. Those stately edifices might be suffered to remain, as so many lasting trophies of the victory of Christ. In the decline of the arts they might be usefully converted into magazines, manufactories, or places of public assembly. But as long as they subsisted the pagans fondly cherished the secret hope that an auspicious revolution, a second Julian, might again restore the altars of the gods; and the earnestness with which they addressed their unavailing prayers to the throne increased the zeal of the Christian reformers to extirpate without mercy the root of superstition." M. Frémiet hints at the destructiveness of the saint in his efforts to supplant the old system, for a church is introduced as surmounting an inscription that expressed the power of Rome.

The abbey in Tours which contained the remains of the saint is not devoid of architectural interest. Mr. Fergusson concludes that originally the shrine of the saint was surrounded by seventy-nine pillars arranged on a circular plan, while the nave was lined by forty-one, with one in the extremity of the west end. When in the eleventh century the church was rebuilt, the architect could not well disturb the shrine, or indeed any part of the most renowned church in Gaul. The circular part was left to the clergy as before, but the nave was enlarged. The building therefore is one of the earliest examples of the chevet arrangement.

THE PRESERVATION OF STONEHENGE.

We understand (says the *Wilts County Mirror*) that the subject of the protection of Stonehenge from further damage was brought up for discussion at a recent meeting of the Council of the Society of Antiquaries, when a resolution was passed offering to co-operate with Sir Edmund Antrobus in protecting the stones from further damage, and suggesting that a scheme might be arranged between the Society and Sir E. Antrobus with that object in view. This resolution has been forwarded to Sir Edmund. The Society of Antiquaries realise that unless something is done to protect this venerable monument against the devastating forces of nature further damage will arise. This opinion has been confirmed by the facts brought to light by the fall of the stones on the first day of the present year. It was generally thought that the upright stones were embedded in the earth at least 5 or 6 feet, but the upright which has fallen has revealed the fact that these stones are not nearly so deeply and firmly embedded in the earth as had been supposed. It was the generally accepted theory that the stones were of an oblong shape, but it has now been discovered that the face of the fallen stone at the base is not parallel with that at the top, but is cut at an oblique angle from the inner to the outer edge of the circle. The deepest portion, at the outer edge of the circle, was only embedded to a depth of 3 feet 6 inches, the depth in the centre being 3 feet, and at the inner edge only a few inches. The theory formed by antiquarians is that when the stones were originally placed in position the earth in the interior of the circle was much higher than it is at present, so that the support given to the stones was on either side. They believe that the rain has gradually washed the earth away from the interior into the trench which originally surrounded the monument, but which is now filled up.

The members of the Society who have visited Stonehenge and inspected the fallen stones are of opinion that the only way of supporting the remaining uprights is to put a bed of concrete around each stone. This would be a very delicate and expensive work. The remaining stones would have to be very carefully shored up while the earth was dug away, and the temporary supports would have to remain in position until the concrete was firmly set. It is suggested that the bed of concrete should be 3 feet deep and 3 feet wide round each upright, and that it should be about 1 foot higher than the present ground level. This would insure the stones standing for many years, and in a very short time after the turf had been relaid there would be no traces left of restoration. It is possible that Sir Edmund Antrobus will again be approached with regard to the purchase of the old Druid Temple.

MR. VAL PRINSEP ON PAINTING.

In another lecture at the Royal Academy, the professor of painting, Mr. Val Prinsep, dealt first with "The Struggle after Nature," commencing with a description of the position of art in England before the time of Reynolds, when Lely was the popular man of the day, and when a Guido Reni fetched a higher price at sales than a Rembrandt. Hogarth was a great artist, but insular, and one who laughed at foreign schools. He objected to the continual moral teaching of Hogarth's pictures, but praised highly for its technical qualities the "Marriage à la Mode." Painters owed much to Hogarth for freeing them from "patronage." The gradual appreciation of nature in the time of Reynolds the lecturer attributed in part to the influence of Richardson, who in his novels really laboured after nature. How strong was the power of the so-called classicism at that time was shown by the stir that was made when it was known that West was using modern costume in painting his "Death of Wolfe." The king was shocked, and one of the archbishops came to Reynolds to beg him to induce West to array his British soldiers in classic costume. West, however, was obdurate, and Reynolds, when the picture was finished, declared that its painter was right. Nature was the first inspirer of both Reynolds and Gainsborough, although the taste of the former in art was rather academic—a direct contrast to his own style. The painting and the colour, the industry and the lovable character of Reynolds were eulogised by Mr. Prinsep, who then turned to the consideration of the work of Sir Joshua's great rival, Gainsborough, the charm of whose portraits had, perhaps, never been approached. But his landscapes were too much generalised, and too little love of nature was shown in his foregrounds. The lecturer preferred the landscape of Wilson to that of Gainsborough, and the rustic pictures of the latter seemed to him too pretty. Romney, a graceful painter, he hardly liked to mention after these two great artists to whom he was so far inferior—although the idol of to-day. The relapse into conventionality of the figure painter after the death of Reynolds, and the increasing naturalism of the landscape men, led the lecturer to the art of Crome, Cotman, Constable and Turner—the last the greatest of them all, and the originator of the painting of aerial effects. Mr. Prinsep told his audience how Corot himself had described to him the effect of the exhibition for the first time of Constable's landscapes in Paris. A little later Landseer founded a new branch of art by giving sentiment to animals. He was influenced by the anecdotic fashion of his day, but he had more painter-like gifts than he ever fully developed, and might have done much greater things had he not been led away by a too fatal facility. The pre-Raphaelite influence on English painting in the days of the anecdotic school was also touched upon. In France, the period of the French Revolution brought forth David, a great artist, but one who lacked what his pupil Ingres possessed to bring his work into the front line. Ingres was to his mind the greatest of French masters. Mr. Prinsep finished his address by speaking of Barbizon, once the best-abused school of painters. Millet, whose works now fetch such high prices, lived in poverty nearly all his life; and Corot once told the lecturer that he did not succeed in selling a picture until he had reached the age of forty-five.

The work of certain modern painters, and the general tendencies of modern art, were the concluding themes of the lecture. Mr. Prinsep had been fortunate enough to know all the best of our painters, from Mulready to Millais, and in the first part of his lecture he gave interesting sketches of the characters and the methods of painting of Leighton, Millais, Rossetti, Burne-Jones, Mason and Walker. With the last two Presidents of the Academy his intimacy had been close, and Leighton he had regarded almost with the affection of an elder brother. Leighton was a man who valued will before everything, and his own will was of iron. He was not merely a great painter, but a great President, possibly the greatest the Academy will ever see, and a man of extraordinary method in all he did. Leighton gave as much attention to arranging colour in his pictures as in arranging form. Every detail in his work was studied from nature, and if, as they were told, genius consisted in taking pains, genius was his. A solitary man, who almost always dined alone at his club, he was in most respects curiously unlike Millais, who enjoyed the society of his fellow men, and worked without any of Leighton's method or preparatory studies, his picture developing itself as he went along. At first a kind of Van Eyck, he was afterwards a supreme painter—a man of the greatest natural genius—but with a species of apathy which prevented him from carrying out important pictures. His portraits, though less well-arranged than those of Reynolds, had more character in them, and none of that over-generalisation which in Sir Joshua's case, the lecturer thought, might have been due to short sight. All his fellow painters loved Millais, for his faults were all on the surface, but Leighton, though admired by all, was loved only by a few. The fascinating personality of that gifted genius, Dante Gabriel Rossetti, was totally unlike that of other men. Rossetti's neglect of serious study, and the trouble it caused him, led to a comparison of him in this respect with Burne-Jones, who made up by unremitting toil for his want of early training. Burne-Jones, in spite of mannerisms and the too close resemblance of his pictures to certain of the old masters, was a great artist. His pictures had a noble aspect, and he worked from his own ideal, uninfluenced by his time. Mason and Walker were two men who showed us the charm of the country as it had never been before. Mason lost all his money while in Italy, and came to England penniless. He never recovered from the hardships of his Italian life, and all his pictures in the Winter Exhibition at the Academy were the efforts of a man on the brink of the grave. Walker was a man who never had the academic training which might have shortened the way to excellence, and lightened the tremendous labour with which, for want of training, he did his work. Yet the few pictures he had left behind were perfect of their kind. Reverting to the general principles of art, Mr. Prinsep then cited five examples of great pictures by Van Eyck, Rembrandt, Velasquez, Titian and Raphael. But he would give no opinion as to which was the finest picture in the world. He spoke of the good and bad influence of the camera in art, and warned the students of the danger of being led away by fashion and false gods. He urged them to cultivate sympathy and to criticise their own work as if it were that of an enemy. In conclusion, he could not refrain from alluding to what he felt sure had occupied all their thoughts during the past few days. To artists, the pathos of that solitary figure of the Queen, garbed in mourning, amidst the most brilliant surroundings, must always have appealed. They had loved her so long that she had become part of themselves.

EARTHWORKS AND CASTLES OF EARLY ENGLAND.

AN illustrated lecture was given at the London Institution on Monday by Mr. Elliot Malden on "Earthworks and Castles of Early England." Attention was called to the fact that there were many different ways in which history had been approached in the later ages, but in no way more conspicuously successful than in the study of past times through their material remains. These remains had a special advantage over written work. Amongst the remains which past days had left were fortifications, fortified houses, military posts and camps of refuge. Ecclesiastical architecture presented certain easily recognisable forms which were readily assignable to particular ages; but an ordinary man had not the slightest notion whether the Tower of London or Arundel Castle or the Round Tower of Windsor was likely to be the older, and had not the smallest notion why the Round Tower was round or the Tower of London square. There were two great uses for the military remains of the past—either for shelter for some considerable collection of people and their flocks and herds, or else they were erected, for purely military reasons, for the command of the country. Posts on the top of a hill commanded distant views, but did not give the command of the country. This could only be obtained by means of a garrison; and a hill was out of place for them. The country could only be commanded by occupying the passes, fords and bridges. By such places camps were constructed, so that the garrison could sally out and command the country where other people must pass. For sheltering non-combatants the top of a hill was a useful place. The Roman camp was invariably rectangular in form, while that of the British was irregular in shape, following the contour of the ground on which it happened to be. Ancient British camps were surrounded by three banks and ditches, Roman camps by one wall and ditch. A British shelter camp was much larger than a Roman camp, and one which the lecturer showed covered an area of 11 acres. These camps were not permanent; the people did not live in them, and nine out of ten had no water in them. The remains of many different ages were found in these camps; flint implements had been dug up, and stone implements—remains which only belonged to a very primitive people. Pictures of British camps were thrown on the screen, including Old Sarum and Castle Nadin. With the West Saxons came the building of burhs. These were common to Scandinavia and Low Germany. The burh consisted of a mound surrounded by an earth wall defended with wooden palings, having a house in the centre. Castles of masonry were very much later. William the Conqueror built similar castles in 1068, and they were constructed in a few days, while castles of stone took a very long period to build. There was one exception, he believed, at that early time, as Dover Castle was probably built of stone. There was no Norman stone castle in Normandy earlier than the time of William in England. The Normans enclosed the old British mound with a circular wall; one such castle was near the Severn, and other illustrations were seen in Arundel Castle, Sussex, Cardiff and Lewes. Porchester Castle was square in form, and so was Rochester Keep, and these were of Roman origin. The Tower of London was the best known example of the Norman tower and keep. Guildford Castle was a Norman square tower erected on an artificial or British mound. Christ Church Castle, Hampshire, was constructed on an artificial mound. There were only three examples in England of a Norman keep erected on an artificial mound. The alteration in the style of castle from the Norman keep, with only one entrance and exit, to the concentric walls around the castle, as at Beaumaris and Carnarvon, was shown. The residential castles were of a very different type. At Bramber Castle, Sussex, there were within the same area remains of the British castle—a mound, and the stone keep of Norman times, while the barracks had been converted into a stable. The Tower of London presented to view a castle used for varying purposes at different times; the Norman keep, with outworks and still later additions, to bring them up to the best type of castellated fortifications.

THE BAPTISTERY OF FLORENCE.

RECENT visitors to Florence will have noticed with much misgiving the work of "restoration" going on at the famous Baptistery. Signor Ugo Ojetti, writing in the *Corriere della Sera*, of Milan, draws attention to the case. The famous Battistero of San Giovanni was (he points out) covered with precious marbles by Arnolfo di Lapo towards the end of the thirteenth century. Exposure to the light and sunshine for centuries had given to these marbles a rich velvety colour, and the slight cracks which some of them exhibited constituted no danger to the edifice, as the wall is not built of marble, but merely covered with slabs. A year ago the cathedral authorities thought that the Battistero looked too old, and ordered it to be cleaned with pumice-stone.

In the green marble slabs placed in position by Arnolfo di Lapo under the eyes of Dante, writes Signor Ojetti, square holes were cut to support the beams which these new barbarians had ready for making the scaffolding. Upon the scaffolding planks were laid, while matting was stretched around to hide the work of re-embellishment. With acids, pumice-stone and irons all the marbles which looked dirty were cleaned and scraped until they presented an appearance of youthful polish. Wherever the slightest crack was visible the stone, which had seen the dawns and sunsets of 600 years was cut away, and for yards and yards the fine old green marble was replaced with a dark marble of a colour like wet slate. The vulgar Ravaccione of a dirty blue colour was substituted for the cold white alabastrino; the edges were made sharp like razors, and look horribly new. By degrees, as the scaffolding was taken away, the holes made for the cross-beams were filled up with stone of a "howling" hue, and the interstices were filled up with painted cement. This has been done to six sides of the octagonal temple where all Florentines are baptized, and which for centuries was the cathedral of Florence. The Battistero, the most perfect example of early Tuscan art, now appears as brilliant as though it were new, and when the scaffolding and the planks are completely removed the doors by Andrea Pisano and Lorenzo Ghiberti, the statues by Danti, Rustici and Sansovino will seem in comparison dusty and lurid until someone takes it into his head to brush, wash, scrape and polish them also.

Not content with these exploits the cathedral authorities have asked for 600*l.* in order to "clean" in the same way the basis of the Giotto belfry. Meanwhile, no funds are forthcoming to execute works necessary for the preservation of artistic treasures in the church of San Pancrazio, the Palazzo di Parte Guelfa and the church of San Lorenzo. San Pancrazio has been made into a cigar factory and divided into two storeys. In the Palazzo di Parte Guelfa frescoes by Giotto exist under the stucco in what are now firemen's headquarters, while the hall constructed by Brunellesco has been divided into three storeys, its pillars painted, some of its windows half built up, and the whole turned into an elementary school.

Signor Ojetti's protest may (says the Rome correspondent of the *Morning Post*) help to induce the Italian public and the Government to intervene in preventing more vandalism of the kind described. Pressure of foreign public opinion will also be useful in convincing the Italians that masterpieces of art have a commercial value as attractions to sightseers, even if the Italians themselves are incapable of appreciating their beauty.

NOTES AND COMMENTS.

It is perhaps excusable that public authorities who have gained their position by means of votes should be anxious to appear on the best of terms with electors, and to display sympathy with them. In that way the movement which is now in progress among Irish County Councils for the dispensing with contractors on county roads, and the substitution of direct labour, can be explained. A deputation on the subject had an interview on Saturday last with the Chief Secretary. The plea relied on by the deputation was that economy would be promoted. That is difficult to answer, but Mr. Wyndham was able to point out that on the whole the contract system had worked well in Ireland. Besides, the experience in Great Britain tended to prove that if direct labour were to be introduced it should be with the utmost caution, for on some classes of roads it would impose an unjustifiable tax on the ratepayers. Mr. Wyndham admitted that a Local Government authority could not always be kept in leading-strings with advantage, but care would have to be taken that economy was not sacrificed. The Chief Secretary therefore proposed that the Local Government Board should be called on to examine and approve all schemes in which direct labour was to be employed. The position of a County Council being strange in Ireland, it is likely to give rise to exhibitions of zeal, and possibly many councillors imagine they are equal to the task of superintending the labourers who are at work in repairing roads, but the question should be asked, How long will that zeal endure? The movement, we fear, is only the beginning of an effort to get rid of contractors for all classes of work, although experience has shown that in Ireland direct labour is the most wasteful way of having work executed.

The new church of Saint Pierre, Montmartre, Paris, which was recently, as we have already stated, made the subject of litigation on account of non-compliance on the part of the curé with municipal regulations, has been officially tested. The floor of the church, which is above a crypt, was loaded during several days with sand to the extent of 600 kilogrammes per square metre. That is equivalent to about 123 lbs. avoirdupois per square foot English measure. In the crypt light boards were arranged on a movable scaffolding in such a way that they must yield to a very slight deflection of the vaulting. The official experts acknowledged that the proofs of stability were entirely satisfactory. As the church is erected on private ground a little way back from the street, it was supposed to be unnecessary to lodge plans similar to those required for ordinary buildings in streets. Although the church is far advanced, it is understood the curé will now comply with the by-law in respect to plans.

One result of the influence of French examples on the authorities of the United States is seen in the attention given to sculptural and mural decoration in many of the new public buildings. One of the latest of this class is the Appellate Division Court House in Maddison Avenue, New York, which has been erected from the design of Mr. James Brown Lord. The entrance is flanked by two large seated figures representing Force and Wisdom. In the pediment is a group typical of the triumph of Law. Above the attic storey are many statues of Lawgivers, and two groups, one representing Justice, the other Peace. The windows of the attic on one side are flanked by caryatides typical of the four seasons. Over the entrance doors are reliefs of Morning, Noon, Evening and Night. In the great hall is a frieze suggesting the Transmission of the Law from the time of Moses to the present day. There are also representations of Justice, Law and Equity. In the principal court there is a frieze having for subject the reign of Law, with panels illustrative of Wisdom, the Power of Law and the Justice of Law. There are also smaller panels having for subjects Moderation, Veneration, Perspicuity, Eloquence, Research, Unity and Fortitude, Justice, Truth, Philosophy, Courage, Patriotism, Logic, Knowledge and Prudence. Several of the best painters and sculptors in New York have been engaged on the decoration. The walls are lined in some places with American marbles, and the building has a richness which contrasts with the severe gravity of English law courts.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: DETAIL OF SOUTH-WEST END OF FRONT.

THE CROFT, TOTTERIDGE: CORNER OF HALL.

SURBITON DISTRICT COUNCIL OFFICES.

This building was carried out from the designs of Messrs. Forsyth & Maule, of Great Marlborough Street, W. The materials employed were Lawrence's red bricks, Monk's Park stone dressings, and the roofs are covered with green Westmoreland slates. The site is a corner one facing the Ewell and Berrylands Roads, and accommodation had to be provided on the first floor for a council chamber and two committee-rooms, and on the ground floor are the usual offices for the council clerk, surveyor, collector, registrar, &c. Caretaker's rooms are placed on the second floor, and the basement contains heating chamber and coal store. The council chamber measures 40 feet 6 inches by 29 feet 3 inches, and is panelled to a height of 9 feet all round. The panels are of sequoia and the styles and rails of kauri pine, the whole being only oiled. The floor is laid in pitch pine; the ceiling has a flat cove, with large panels. The chairs and tables, designed by the architects, were made by Mr. John P. White, of Bedford, and are of Austrian oak, fumed and waxed. The exterior view shows the elevation to the Ewell Road. On the right of the entrance are the council clerk's offices and on the left the collector's office and surveyor's departments, the drawing office being planned to the north. The builders were Messrs. Gough & Co., of Hendon.

STAPLE INN.

This old and picturesque building, so familiar to every Londoner, was, according to tradition, at one time the resort of wool merchants, being used by them under the name of "Staple Hall," as a sort of exchange. Support would seem to be given to this report both by the name "Staple Inn" and by the fact that the arms of the Inn contain a woolpack. Substantial confirmation as to the accuracy of this tradition is, however, lacking, and so far back as the time of Sir George Buc (Howe's edition, 1631), the matter was still shrouded in mystery, and Sir George, after referring to the popular rumour, says, "Until I can learne better matter concerning the antiquity and foundation thereof I must rest satisfied."* "In the reign of Henry V., however, and probably before, it had become an Inn of Chancery, the society still possessing a manuscript of the orders and constitutions made at that period."† "In the twentieth year of Henry VIII. the inheritance of Staple Inn passed from John Knighton and Alice, his wife, to the Benchers and Ancients of Gray's Inn. In Elizabeth's reign there were 145 students in term and 69 out of term, which was the largest number of any of the Inns of Chancery."‡

Staple Inn consists of two large courts, surrounded by buildings. A great part of the second court was rebuilt in the early part of the eighteenth century, but the first court, adjoining Holborn, and particularly the street front, is of a much greater age.† Mr. W. J. Loftie, in his book entitled "The Inns of Court and Chancery," states that a great part of the existing front must have been built about 1622.

In 1884 the property passed into the hands of the Prudential Assurance Company, having been sold to them for a sum of 68,000*l.* At that time the front was restored, the timber construction being revealed by the removal of a coat of plaster.

There are certain literary associations connected with Staple Inn which are of interest. It was here that Johnson wrote the charming story of "Rasselas," he having removed here for economical reasons on the completion of his Dictionary and the consequent loss of that source of income, and Boswell speaks of him as living here "in as easy and pleasant a state of existence as constitutional unhappiness ever permitted him to enjoy."

Isaac Reed, the Shakespearean commentator, also lived and died here, and the spot has been further celebrated in the works of Dickens.

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* *London Past and Present.* Wheatley and Cunningham.
† *Antiquities of the Inns of Court.* Herbert.
‡ *Gray's Inn: Its History and Associations.* Douthwaite.

ON ENGLISH GARDENS.*

As with English architecture the chief interest centres about the simpler work, the homely quality of which directly appeals to one, so the smaller and less pretentious English gardens seem in every way most perfect. There one finds no question of the rival claims of formal and informal school, of Italian, French, or English styles, but merely a natural common-sense adaptation of means to an end—a direct meeting of needs. In the great Italian and French gardens one feels the presence of a complete and studied scheme, and also of a conscious effort for effect. As exponents of the art and science of landscape-gardening, French and Italian examples are distinctly superior to the English; but for mere lovable beauty, fitting the needs of true country lovers, nothing can touch the English garden.

In the many periods of English gardening the influence of foreign styles and fashions has been felt, and has to a certain extent modified the planning and planting of grounds, but except in those places which have attempted grandeur one finds no purely scholastic work. The earliest work of which we have any perfect knowledge is that which was influenced by the Italian Renaissance. When Jones and Wren introduced the balance of Classic planning and the detail of Classic work, the gardens developed on similar lines. This period gave us the formal terrace, the walled gardens, the bowling-greens, clipped hedges, and the intelligent use of architectural accessories which mark the majority of the good English gardens. The general character of this work remained practically unchanged for a couple of centuries. With the beginning of this century, when taste in architecture and art was distinctly declining towards its final depth in the thirties, there came first a carelessness for the beauty of the old gardens which resulted in neglect, and then the period when, under the guidance of Brown, the imitation of nature and the making of pictures was the aim everywhere. This resulted not only in the destruction of many fine gardens, but in a general perversion of taste which it has taken many years to counteract.

The reaction from Brown's hopeless endeavour to imitate nature and to avoid everything pertaining to formality was very quick, and yet it is indicative of the English temper that it was not a violent swing of the pendulum to the other extreme. Kemp, writing between fifty and sixty, laid down rules, or rather suggested principles, which seem thoroughly sound and sensible. He urged the necessity for formal treatment in and about the house, and yet valued the freer and more natural possibilities which were unaffected by the immediate proximity of architecture. He deprecated the imitation of nature, and made a strong plea for retaining "art," by which he meant anything of a formal or studied nature. Simplicity, convenience, seclusion, are among his chief aims, and it is characteristic of the Englishman that in enumerating the things which require consideration when planning the grounds, he names economy first. By this he would include not merely making the plan on such a scale that the owner can afford to lay it out, but considering also the cost of maintenance, and, still further, arranging the place so that the maintenance can be done with economy. This is a matter of great importance, and to its just consideration is due to a large extent the number and beauty of the English gardens. As a rule work is not laid out or undertaken which cannot be easily executed and maintained without taxing the resources of the owner.

With the English, gardening is so old an art that the cost of maintaining can be as readily estimated beforehand as can the cost of execution. Tradition, habit, social custom have all combined to fix the lines on which work shall be conducted, and thus to make a standard of "form," used in the athletic sense, for the maintenance of the service of the house, the stable and the grounds. If a man can afford but three servants his house is arranged on the basis of what three servants can do thoroughly well, and he will not have a larger house unless he can afford to have his service adequate. His stable will be regulated with equal care. He will have only such horses and carriages as can be kept in first-rate condition. Applying these same principles to the garden, collecting and making use of the cumulative experience of many generations of gardeners, he lays out his grounds with clear foresight as to its maintenance Nothing is to be slovenly, nothing neglected. The results amply justify this course. The thoroughness of the English garden is the very root of its charm. The garden, whether large or small, shows care in every part, and not only care, but generally the loving care of the man who is really fond of his garden as a whole, and of his plants individually. One cannot go through a garden with the owner or his gardener without feeling that to them the garden is as intimate as the house.

The whole attitude of mind of the Englishman is the desire to satisfy a need rather than to supply a luxury, and therefore this is generally found to be the chief motive in the laying-out of his garden. The great majority of English gardens have developed in direct response to practical needs, and if one studies these needs and sees how they have been met, the history of nine-tenths of the English gardens is given.

The needs of the house are approaches and courts, or yards. The main approach is for the convenience of the family and their guests; it is not considered as a portion of the grounds especially desirable as an outlook. The chief living-rooms are where aspect and outlook are most favourable, so that the entrance-hall is naturally given the less desirable aspect. On this account, if for no other, the immediate approach to the house is not so capable as other places of being made liveable. Considerations of utility are therefore paramount. If it is a carriage entrance, a short drive and a convenient turn are things sought. This has resulted in a number of types of which the most familiar are the simple in and out on different lines and the straight drive finishing in a circle. Both these lend themselves readily to a formal treatment, and trees planted regularly, hedges, or walls give an element of style to the simplest of plans. The kitchen approach is even more utilitarian, the chief object being to keep it separate from the master's approach and screened from view. The most direct approach, the simplest of turns, privacy obtained by walls, fences, hedges; or, in the case of basement offices, by sinking the road below the general grade—these are essentials.

The formal planning of the early seventeenth century which had developed the H and E plans suggested enclosing, partially or wholly, the two approaches. It reproduced in more regular form the early fore-court and the base-court. The former name is still generally in use, the latter is more generally referred to as kitchen-court. The fore-court became at once an interesting feature of the plan, but never lost its true status. It was always the approach, and never a place to idle or take pleasure in. Its beauties are such as can be readily apprehended at a glance. One finds none of those hidden nooks and unsuspected beauties which are incidental to the garden. A simple piece of greensward, a few trees, possibly statuary or vases such as will tell at a comparative distance and can be comprehended in a glance, such are the general features of fore-courts. Sometimes, but rarely, one finds paved fore-courts, but this is unusual, and the English are more apt to reduce their pavement or gravel to the smallest dimensions rather than increase it unnecessarily.

The kitchen-court is entirely for the use of tradespeople and for the accommodation of kitchen service. It may sometimes serve as a drying yard, though this is generally separate. It is therefore paved or gravelled throughout, to be dry underfoot and to allow the free handling of waggons. This is the noisy and disagreeable part of the establishment, and it is considered essential that it should be removed as far as possible from the main house and as much shut off. Service is brought to much greater perfection in England, so that distances which to a housekeeper here would seem impossible are deliberately planned for, that offices and service yards may be out of sight, smell and hearing. Generally the kitchen-court is shut off by part of the house itself, or, if this is not possible, it is screened by high walls. The drying-ground is generally more open and sunny, and not infrequently clothes are dried on the ground instead of hung on lines, so that the drying-ground may be a pleasant piece of turf, not unsightly even when covered with the white linen. Thus in meeting the needs of approaches to the house the two courts are developed.

Before taking up in detail the needs which decide the character of the grounds more removed from the house, it will be well to point out that the English invariably carry into their grounds the same desire for privacy and separation which is noticeable in the house. One has already remarked the careful separation of the kitchen and offices from the master's quarters; one will find similar separation between other parts of the household and between individual rooms. The nurseries are apart, the master's own rooms are apart, the guest-rooms are apart and, finally, except in suites of rooms used only for entertainment, the individual rooms are well divided from each other. This same principle underlies the garden plan. The place is considered as an outdoor house. The grounds are divided up according to their use, and each portion has its well-established boundaries.

In a place of even an acre or two the first consideration is what can be got from the land in the way of actual return, and the space for a kitchen-garden is almost the first consideration. The demands of pleasure may march side by side with it, but it is very rare to find a man laying out his place with no thought of anything but beauty and pleasure. One may therefore be justified in considering the kitchen-garden as the most prominent necessity after the approaches. This garden must be near the house and near the kitchen and the gardener's house, and yet not too evident. It is never, however, treated as an unsightly part of the establishment, and indeed there are many kitchen-gardens which are quite delightful spots in which to ramble. A garden at Wells has dwarf espalier apples bordering its paths, beautiful fruit trees on its fine old walls, standard roses marking the lines of some of its paths, and the flowers and fruit helped rather than hurt by the peas and beans, the splendid blue-green of the cabbage tribe, and the rich brown of the turned-over soil. As the kitchen-garden is to be an apartment by itself, as it were, it is bounded and at the same time protected by walls. Large gardens would be subdivided, and one might find separate gardens for herbs, for small fruits, for roots and for the more quick growing crops such as beans and peas. The necessary water is made use of as an interesting feature. Water which has lain in the sun is better than cold well water or water just from the town mains, so one generally finds a good-sized basin making an interesting pool in the garden. A proper place for tools creates a garden-house, frequently quite a delightful feature, and the greenhouse, hot-beds, cold frames, bins for leaves and all such accessories of garden work are made to lend interest to the kitchen-garden and give it the air of order which is characteristic of all English work. The desire to make the most of every scrap of ground induces the utmost care in getting all that is possible out of smallest compass. The walls, as well as the ground, must yield their increase, and all must be in compact form. This has produced the many forms of dwarf trees which add interest to the garden, and the careful rotation of crops, and following of crops in the same season, which increase the appearance of care and thoroughness.

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* A paper by R. Clipston Sturgis, read before the Thirty-fourth Annual Convention of the American Institute of Architects.

Flowers are so interwoven with the kitchen-garden, part of which is generally occupied by the varieties which are more useful for cutting than for their beauty out of doors, as to lead one to the consideration of the flower-garden as the next need to be satisfied. The flowers one might divide under three heads: roses, perennials, annuals. This is, of course, a very primitive division, but those three are represented in every English garden; and the three, as befits their different characteristics, are generally separated, and one has the rose garden, the perennial bed or borders, and the parterre of annuals. Roses are the special pride of the English gardener, and with climbers, standard and low-budded roses, and all the varieties of briars almost anything can be done with the rose garden. Like other parts of the place, it is enclosed with walls or hedge. The perennials being, like the roses, permanent occupiers of the ground, are placed in deep rich beds, and for convenience both of tending and picking are frequently in long narrow borders against the walls. This gives the tall-growing plants the support and protection of the wall, and leaves room for the various smaller varieties in the hedge. Such a long border, with perhaps a hedged walk or a bowling-green running the length of it, is a familiar and most charming feature. The annuals are in small beds by themselves, the beds often bordered with dwarf box, so that the regular outline of the beds may be pleasing even when the beds themselves are empty. To reach the gardens, and to enjoy them when there, one finds pleasant walks, some shady, perhaps completely embowered, others sunny, for use on cold days; also seats and garden-houses.

In laying-out all this there is generally a double aim: first, to give, by occasional long vistas, a sense of size; and second, by screened enclosures and half-concealed exits, a sense of privacy, and a stimulus to the imagination for what lies beyond. In the most interesting gardens the element of the unexpected is always present, and the fact that it cannot be a surprise to the owner does not really detract from its value, for to every visitor it is a source of delight, new pleasure still unfolding until the last surprise of the round is in finding one's self back again at the starting-place.

Architectural laws demand a certain amount of level space immediately about the house, and various spots require level ground further afield. The bowling-green, croquet-ground and lawn-tennis courts have formed at one time or another necessary parts in the lay-out of even a small place. These flat pieces of the splendid turf which is so common in England are among the most beautiful features of the English garden. Here, again, the love for retirement suggests enclosing walls or hedges, so that the court, or the green, is really a great out-of-door room with garden-seats and benches about, or perhaps in the more stately ones busts on plinths in Italian fashion set against the sombre green of the yew hedge. Again, one sees that this feature is produced in direct response to a need.

Level ground cannot always be obtained naturally, and the need of it has developed the terraces which abound in the hilly districts. These may be the mere formal treatment of the platform on which the house securely rests, or they may form the various divisions of the hillside garden; or, again, surrounding a sunken garden they may give the pleasant walk and that most delightful of all views which one gets of a small garden—the view looking down. All of the features hitherto considered may be worked out on a ground-work of terraces, and these possibilities as well as their charms are endless.

Sedding well said that however much we were refined and cultivated there was always an underlying savagery which at times demanded satisfaction. One must tire of the sure mark of man's hand and long for nature unrestrained—the wide seaboard and the rude forest. So one finds in almost every English place of any size some wilderness, some copse or coombe, which shall be left free and wild as, at the least, a reminder of nature quite free. But the transition from the cultivated aspect of nature to its wilder form must be gradual; one does not want to open the garden gate in the wall and be in the forest. Between the two one finds the pasture lands, rolling, sheep-cropped fields bordered, not with the masonry wall or the clipped hedge, but with the wild hedgerow, thick with thorn and holly and punctuated with the upstanding elms. From the pastures to the copse and the woodland the transition is easy.

Thus the English garden has its fore-court and base-court, its gardens for fruit, vegetables and flowers, its places for sport and recreation, and to guard and protect all these from searching winds and prying eyes, the boundaries, the divisions, the walls and the hedges. The walls, especially those near the house, are always in close touch with the house itself—stone with the stone house, brick with the brick one, and, in their ornament, balustrades, gateways, posts, coping and finials, echoing the character of the house. As one goes further from the house, the walls are less architectural and more purely utilitarian; the boundary wall of the place, or the north or east wall of the garden may be 10 or 12 feet high, for it is to serve as a real protection; others may be but 2 or 3 feet high, mere boundaries to mark a line. The hedge is, perhaps, the commonest bound of all, and this varies from the rough pasture hedgerow to the clipped yew, or holly, or box. The fancy clipping of hedges and individual trees was an importation from Holland, and at one time was very popular. There are many examples of topiary work in the older gardens, but to-day clipped work is rather more sober and, on the whole, more in keeping with the common-sense beauty of the English garden.

Shrubs are rarely seen as individual show plants, but are generally massed and placed with some special end in view, beyond and apart from their mere beauty. They will serve to screen the offices or the kitchen yard, or to make a wind-break for more delicate things growing on the borders of the lawn. Trees also are used very cautiously as individual specimens. Occasionally a great plane tree or an ilex stands in lonely grandeur at the edge of the lawn, but as a rule the trees are planted in groups to serve definite purposes—sometimes to shut out an undesirable view, sometimes to form a vista towards a pleasant scene. Again, a group of elms at the end of the place may simply serve as a background—a great drop-scene which finishes the view and leaves one in doubt as to how much more there may be beyond. Many a small place of two or three acres gives an impression at once of seclusion and of size, because the great trees prevent one's seeing what lies beyond. The larger places will, of course, have their copse and woodland, but even here the mark of axe shows that thoroughness and care and that eye to profit which pervades everything; for dead wood is cleared out, the spindling trees are felled, the brushwood is cut and tied in faggots; everywhere there are the signs of an old industry, a well-worked country, where everything must be turned to account.

When one wanders through English gardens with all their delight, one cannot but feel convinced that common sense and thrift are the roots on which the beauty has grown and thriven.

THE GLASGOW ROYAL INFIRMARY.

THE following communication from the Glasgow Institute of Architects has been addressed to the chairman and managers of the Glasgow Royal Infirmary:—

Gentlemen,—Recognising it to be your earnest desire that the infirmary, when reconstructed, should conform to the most modern standards of design in this class of building, and that the subscribers and the general public have a right to expect this, we, the Glasgow Institute of Architects, as a body of technical experts in such matters, feel it to be our duty to state that, in our opinion, this result will not be achieved if the reconstruction is proceeded with according to the plans selected by your sub-committee in the recent competition

We attribute this failure not to any lack of zeal on the part of your committee, or of ability on the part of the competing architects, but mainly to the manner in which the competition was initiated and carried through, and that in the following respects among others:—

1. That along with the printed conditions provided for the competition there were issued two sets of sketch plans as indicative of alternative arrangements which the sub-committee recommended, and which were stated in the accompanying report to be drawn by or under the direction of two members of the sub-committee respectively.

2. That a Jubilee block to be situated on a particular part of the site was insisted upon as an integral part of the scheme.

The results of these elements in the conditions were:—(*a*)

That the competitors and the assessor were hampered in the exercise of their individual judgment as to the main points of importance in such a building, viz. the distribution of the various buildings with respect to each other for convenience of working and of all for the freest access of sun and air. (*b*) That the competitors were placed in the invidious position that, in the event of the schemes recommended by the committee not proving themselves to be in accord with their judgment and experience, they were bound, in departing from them, to meet with disfavour from those influential members of the committee who would enter upon the examination of all the plans with minds necessarily biassed in favour of those which they themselves had put forward, while reserving their position as judges. (*c*) That as the result, the proposal that Plan E be accepted, which became the finding of the meeting, was moved by the gentleman who was actually the author of the scheme which was adopted and worked out in detail by this competitor.

3. That neither of the sketch plans issued are in accord with the present-day principles of hospital design, as might indeed be expected, seeing that their authors have not enjoyed the training which would qualify them as surgical, medical or architectural experts; that, in fact, the plans are in many vital particulars inadequate and out-of-date, and that these faults are naturally displayed equally in the selected design, which is but an elaboration of one of them. A corroboration of this assertion with regard to the radical faultiness of the plans in question is furnished by the fact that six out of the ten competing architects found it necessary, in spite of risk of possible consequences already alluded to, to entirely throw over the schemes furnished to them, and that among this number are found all the four architects from outside of Glasgow (two from London and two from Edinburgh), who were presumably invited specially on account of their knowledge of hospital design.

Such being the opinion of the Institute after a very mature and careful consideration of the whole subject, we would most earnestly urge the managers, before committing themselves and the public to the erection of any portion of the building, as designed, to have the plans submitted to one or more independent hospital authorities of recognised and outstanding position for consideration and report.

Apart from the all-important question of the erection with the public funds of an entirely adequate and modern hospital, we, the Institute of Architects, feel it necessary to lodge a protest against the setting aside by the sub-committee, without any reason given, of the award of the professional assessor, Dr. Rowand Anderson—the more so that a simple majority of one was considered sufficient to overturn his judgment—as liable to prejudice the success, alike for promoters and architects, of future competitions in Glasgow. And we have further to state that the erection of a Jubilee block such as is proposed, seven storeys high, and in the position selected will, if proceeded with, dwarf and irretrievably injure for all time the external appearance of the cathedral. The foregoing statements represent the unanimous finding of the Glasgow Institute of Architects at a meeting specially called to consider a report of the Council on the question, and as the matter is not only one of the greatest public importance, but of extreme urgency, owing to the proposal of your sub-committee to proceed at once with the erection of the northern block, it has been communicated to the public press at the same time as it is submitted, with our earnest prayer for its consideration, to yourselves.

In name and on behalf of the Glasgow Institute of Architects, C. J. MACLEAN, Secretary.

BIRMINGHAM ARCHÆOLOGICAL SOCIETY.

THE annual meeting of the members of this Society was held at the Midland Institute on the evening of the 23rd ult., presided over by Mr. J. Cossins. There was a fairly good attendance. In their annual report the committee stated that all the work of the Society had been successful during the past year. The meetings had been excellently attended, and the papers read were of interest and value. The excursions had not always attracted so large a number as might be desired, but they had been thoroughly enjoyable, and had entailed no pecuniary loss. The most notable event of the year had been the arrangement of the library and museum in the new rooms. The unwearied personal attention of the honorary librarian, Mr. Wright Wilson, F.R.C.S. Edin., had brought into perfect order what the absence of accommodation had formerly reduced to chaos. It could now be seen how really valuable were the possessions of the Society, and the fact that a safe place of deposit for local antiquities was now provided had already brought about a large addition to its collections. The deficiency in the general account caused by the expense of fitting up the library had been reduced by various donations to 15*l*. 7*s*. The committee desired earnestly to call attention to the continued diminution in the number of members, which now stood at 173, less by ten than at the presentation of the last report. This result could not but be regarded as a discouraging feature in a retrospect which was otherwise entirely satisfactory.

The report and balance sheet were adopted on the formal motion of the chairman, and a committee was appointed by ballot. The thanks of the meeting were then accorded to the officers of the Society for their services during the past year.

A paper was afterwards read by Mr. J. Cossins upon "The Excursions of 1900," Alderman Martineau succeeding to the chair.

COMPETITIONS IN AMERICA.

THE following code for the conduct of competitions was approved by the convention of the American Institute of Architects recently held:—

A competition as a means for the selection of an architect may properly assume one of the following forms:—

(*a*) Limited to a certain number of architects, each of whom is invited to take part.

(*b*) Open to all who desire to enter, or to all of a certain class.

(*c*) Mixed, certain architects being invited, but others being at liberty to take part.

Payment of Competitors.

In all competitions the first prize should be the award of the commission to design the building and superintend its construction, and the programme should definitely state that the successful competitor will be so retained, and that he will be paid for his services at the rates established by the American Institute of Architects.

In certain cases, however, this procedure may not be legal; then the course to be pursued as to the successful competitor should be clearly stated.

To provide for the contingency of delay or of the discontinuance of the work, the programme should provide for a substantial payment to the successful competitor on the award of the competition, such payment to be regarded as on account of the final commissions.

Payments to unsuccessful competitors should be as follows:—

In limited competitions each should be paid a fixed amount.

In open competitions prizes fixed in number and amount should be provided.

In mixed competitions the two classes of competitors should be paid in the manner above described.

The Professional Adviser and the Jury.

It is highly desirable, in the interests of both owner and competitors, that a professional adviser should assist in the preparation of the programme, and that the professional adviser or a competent jury, consisting at least in part of experts, should assist in making the awards.

The professional adviser or jury may have full power to make the award, or they may select a number of designs, and, placing them in the order of merit, leave the final choice to the owner or his representatives.

Where possible the adviser or the jury should make a positive report, and in favour of one design, and recommend the employment of its author as architect for the building.

The Programme.

The programme should be so drawn as to form a contract. It should—

(*a*) Name the owner of the structure forming the subject of the competition, and state whether the owner institutes the competition personally or through representatives. If the latter, name the representatives, state how their authority is derived and define its scope.

(*b*) State the kind of competition to be instituted and, in limited competitions, name the competitors; or, in open competitions, if the competition is limited geographically or otherwise, state the limits.

(*c*) Fix a definite time and place for the receipt of the designs. The time should not be altered except with the unanimous consent of the competitors.

(*d*) State the limit of cost, if fixed; the desired accommodation and the conditions of the site.

(*e*) Fix uniform requirements for the drawings, giving the number, the scale or scales, and the method of rendering. As the presentation of a general scheme (rather than of a design perfectly studied in all its parts) is the object of the drawings, they should be of the simplest kind capable of explaining such a scheme.

(*f*) State whether the submission of more than one design by a competitor is forbidden or permitted.

(*g*) State whether the competition is to be anonymously conducted or not, and, if anonymously, provide the method.

(*h*) Name the judge or jury or provide a method for their selection. Define his or their power.

(*i*) Provide for the placing out of competition of any drawing which violates the terms, or of any set of drawings whose authors have so disregarded the terms as to deserve the extreme penalty.

(*j*) Provide that during the competition there shall be no communication upon anything relating to the competition except in writing between any competitor on the one hand, and the owner or any representative of the owner, the professional adviser or any juror on the other, and that any information, whether in answer to such communication or not, shall be given in writing simultaneously to all competitors. Set a date after which no question will be answered.

(*k*) Fix the nature or amount of the awards or prizes.

(*l*) State, in case the professional adviser or jury is not empowered to make the award, in whom such power is vested.

(*m*) Fix the period of time within which the final decision will be rendered.

(*n*) Provide for sending the decision and a copy of the report of the professional adviser or of the jury to each competitor.

(*o*) Provide that no drawing shall be exhibited or made public until after the award, and not then without the consent of the author.

(*p*) Provide for the return of unsuccessful drawings to their respective authors within a reasonable time, and provide that nothing original as to this competition in such designs shall be used without compensation to the author of the design in which it appears.

THE LATE E. C. CABOT.

IT is announced in the *American Architect* that Mr. Edward Clarke Cabot, who may justly be called the beloved head of the profession of architecture in Boston, has died at his home at the age of eighty-one Born of an old and distinguished Boston family, Mr. Cabot learned his profession, as the architects of his generation were obliged to do, mainly by himself, but he learned it well, and no more refined and scholarly work has ever been done in this country than that which he designed. He was, like so many architects, more particularly abroad than here, a skilful water-colour painter, and frequently contributed his works to the local exhibitions, but in architecture he found the widest field for his great and refined talent. The best of his buildings is, to our mind, the Boston Athenæum in Beacon Street, one of the most beautiful works in the Italian Renaissance style in the country; but that by which he is best known is perhaps the Boston Theatre, which is not only peculiarly refined and elegant in detail, but is, in its acoustics and planning, still one of the best of modern theatres. Besides these two important structures, Mr. Cabot, at first either alone or in connection with his brother, Mr. F. Elliot Cabot, and later with Mr. Chandler, now Professor Chandler, of the Massachusetts Institute of Technology, designed a great number of buildings, generally distinguished by some delicately artistic feature which made them a common subject of discussion among architects. It was Mr. Cabot, we believe, who set the pretty fashion of painting wooden country-houses of an olive green to melt them in with the foliage about them, and we remember that when his own house was built he modelled with his own hands in the wet plaster a frieze of leaves and flowers, which was afterwards painted. Personally, Mr. Cabot was a model of kind and gentle dignity. He was for many years president, and recently honorary president, of the Boston Society of Architects, which, if it could, would have kept him perpetually in that office, and even after he absolutely refused to stand for election for another term his wise and considerate advice was constantly sought Some ten years ago he retired altogether from practice, his failing health obliging him to confine himself closely to his home, but he has been not the less the object of the affection of all those who ever knew him, and the Boston Society of Architects will mourn him as its best as well as its oldest friend.

LEGAL POSITION OF SCOTTISH ARCHITECTS.

THE usual meeting of the Architectural Craftsmen's Society was held on Friday evening, January 25, when Mr. John M. Arthur delivered his paper on "Legal Points for Architects." He divided his subject into two parts, viz "The Legal Standing of the Architect" and "Legal Points relative to Buildings," leaving out the two subjects of "Building By-Laws" and "Conditions of Contract," as these had already been discussed by the Society. The legal standing of the architect in such matters as "His position as agent and arbitrator," "Ordering materials on behalf of his client," "Certificates," "Ownership of drawings" and "Fees" were fully gone into, and law cases bearing on each enunciated. Among his other headings were "The liability for mishaps during building," "Mutual gables and properties," "Drainage and water conveyance," "Ancient lights and free charters." These were explained in a careful and lucid manner.

REGISTRATION IN NEW YORK.

THE following is the New York State Architects' Registration Bill to regulate the practice of architecture:—

Sect. 1. The people of the State of New York, represented in Senate and Assembly, do enact as follows:—Within sixty days after the passage of this Act the Governor of the State of New York shall appoint nine persons to constitute the New York State Board of Architects. The nine members of the State Board of Architects first appointed by the Governor shall divide themselves by lot into three classes of three members each. The first class shall serve for three years, the second class for two years and the third class for one year from the date of their appointment, and thereafter there shall be appointed by the Governor each year three persons to serve three years to supply the place of the class retiring Appointments necessary to fill vacancies which may occur in any of the classes shall be made by the Governor within sixty days after the vacancy has occurred. All appointments shall be made in writing and shall be filed with the Secretary of State. The members of the Board shall serve without compensation or reimbursement for their services and expenses except as hereinafter provided.

Sect. 2. The members of the New York State Board of Architects shall, before entering upon the discharge of their duties, take and file with the Secretary of State the constitutional oath of office. They shall annually elect from their number a president and a secretary, who shall also be treasurer, to hold office for one year.

Sect. 3. The Board may adopt rules and regulations to govern their proceedings not inconsistent with this Act. The Board may adopt a seal, and the secretary shall have the care and custody thereof, and shall keep a record of all proceedings of the Board, which shall be open to public examination.

Sect. 4. Six members of the Board shall constitute a quorum, but the Board may delegate the examination of applicants to a committee of less number to report the examination to the Board.

Sect. 5. Special meetings of the Board shall be called by the secretary upon the request of any two members by giving at least five days' written notice of the meeting to each member. The New York State Board of Architects, with the approval of the Governor of the State of New York, may adopt rules and regulations for the examination and registration of applicants for registration to practise architecture in accordance with the provisions of this Act, and may amend, modify and repeal such rules and regulations from time to time.

Sect 6. The Board shall immediately upon the election of each officer thereof, and upon the adoption, repeal, or modification of the rules and regulations for the registration of applicants, file with the Secretary of State and publish in at least two architectural journals, the name and post-office address of each officer and a copy of such rules and regulations, or the amendment, repeal, or modification thereof.

Sect. 7. Provision shall be made by the State Board of Architects for holding examinations of applicants for registration to practise architecture at least once a year, if there shall be any application therefor, in each of the judicial departments of the State, and any person over twenty-one years of age, upon the payment of a fee of five dollars to the Board, shall be entitled to enter any examination appointed for determining the qualifications for such registration.

Sect. 8. If the examination of any applicant shall be satisfactory to a majority of the Board a certificate shall be issued to the applicant authorising him to practise the profession of architecture upon payment of an additional fee of fifteen dollars. A person who shall at the time of the passage of this Act be engaged in the practice of architecture in this State shall be entitled to registration without fee or examination, on presenting to the State Board of Architects an affidavit to that effect, or a certificate from a similarly constituted board in another State. Each person registered shall cause the same to be recorded in the clerk's office of the county of his residence, or if a non-resident of the State, in the county in this State in which he shall have an office, and the clerk shall record the same upon payment to him of his fees at the same rate as for recording a deed. Upon every change of such residence or office from such county to another county in this State the holder of such a license shall cause the same to be recorded in like manner in the clerk's office of the county to which such residence or office shall be changed.

Sect. 9 The Board shall keep on file in the office of the Secretary of State a correct list of all registered architects. Any certificate of registration so granted or obtained by affidavit may be revoked by the State Board of Architects for gross ignorance, recklessness, or dishonest practices of the holder thereof, but before any certificate shall be revoked such holder shall be entitled to at least twenty days' notice of the charge against him, and of the time and place within the county of his residence of the meeting of the Board for hearing and determining of such charge.

Sect. 10. For such purpose the Board shall have the powers of a court of record, sitting in the county in which their meeting shall be held, and to issue subpœnas and to compel the attendance and testimony of witnesses. Witnesses shall be entitled to the same fees as witnesses in a court of record, to be paid in like manner.

Sect. 11. The accused shall be entitled to the subpœna of the Board for his witnesses, and a reasonable opportunity to produce his witnesses before them and to be heard in person or by counsel in open public trial, and no certificate shall be revoked except upon the unanimous vote of all members of the Board. If a person shall pursue the practice of architecture in this State, or shall engage in this State in the business of preparing plans, specifications and preliminary data for the erection or alteration of buildings, or shall advertise or put out any sign, card or drawing designating himself as an architect, having an office or doing business within this State without a registration therefor, in accordance with the provisions of this Act, he shall be guilty of a misdemeanour, and upon conviction shall be fined not less than 50 dols., nor more than 500 dols.

Sect. 12. But nothing herein contained shall be construed to prohibit any person in this State from acting as designer of his own building, or as designer for any person employing him with full knowledge on the part of such employer that the person so employed is not a registered architect in accordance with this Act; nor to prohibit architects residing in other States and not having an office or carrying on a general business in this State acting as architect for any building, or from visiting the State for such purpose in person; nor to prohibit students or employés of registered architects from acting for or upon the authority of such architects.

Sect. 13 The registration fees received by the Board may be expended for the payment of the travelling and other expenses of the members of the Board

Sect. 14 An itemised account of such receipts and expenditures shall be kept by the secretary of the Board, and a report thereof for each year ending with September 30, duly verified by the affidavit of the secretary of the Board, shall be filed with the Secretary of the State within sixty days thereafter.

Sect. 15 Any surplus of such fees exceeding 500 dols. shall be paid annually by the Board to the Treasurer of the State.

Sect. 16. This Act shall take effect immediately.

A BABYLONIAN SURVEY.

In a letter to the *Times* Mr. W. St. Chad Boscawen gives an account of one of the most remarkable Babylonian inscriptions ever discovered, which has been recovered by the French expedition working at Susa under M. de Morgan.

During his expedition of exploration to Susa in 1897-98, M. de Morgan discovered in the citadel mound at Susa the remains of several successive settlements and at least two ancient cities upon the site. The lower settlements, with extensive deposits of flint tools, maces and sickles, belong to the prehistoric age, although the fine worked and decorated pottery and brickwork indicate some considerable progress in civilisation. The first portion of the valuable series of inscribed monuments have been published under the editorship of the able French Assyriologist Father V. Scheil, O.P Among them is a monument we may regard as not only the longest but also the oldest Chaldean inscription known.

In the last of the cities, which was evidently the Anzanian-Elamite capital destroyed by the Assyrians in B C. 640 by the campaign of Assur-banipal, the explorers found the remains of Elamite palaces and temples which had been burned and destroyed; but more important still was the record chamber, in which were many inscribed monuments, bricks, cones, &c.

Among the most important was the fine stela of victory set up at Sipar, in Elam, by Naram-Sin, the son of Sorrgon I., B.C. 3750, which had been removed, defaced and reinscribed by the Elamite conqueror Sutruk-Nakhunte in B C. 1400. This monument has been fully described in the article referred to, and gives full confirmation to the claim of this ruler to have conquered Elam. The discovery of bricks inscribed with his name prove his occupation of the city. Here, also, were found inscriptions of Khammurabi, B C. 2200, who also claims to have conquered Elam.

The largest and most important monument discovered is a granite obelisk 1·40 mètres in height, covered with an inscription of no less than seventy-six columns of extremely archaic writing, of the type of the earliest monuments from Tello and Nippur, and amounting to nearly 2,000 lines or packets of writing. On the ground of the writing alone this inscription may be assigned to an age as remote as B.C. 4500, and an examination of the contents of this inscription proves this estimate to be accurate.

The monument is not in a strict sense an historical document, but it contains much historical material. It is really a terminus or boundary stone of the kind known to Assyriologists as *kudduri* "land-marks," on which are engraved the title-deeds of most extensive estates purchased by a certain "Manishtusu," or "Manishtuirba, king of the city of Kish," one of the oldest city kingdoms of Chaldea. This monarch was already known to us from an inscription in the Berlin Museum, but references in this long text enable us to locate his position with accuracy. In the body of the inscription mention is made of "Mesalim, the son of the king." This is the same person who, "as king of Kish," took part in the frontier demarcation with Eannadu, king of Sirpurra, recorded on a clay cone in the Louvre, whose reign is about B.C. 4500, and the presence of the name of Urkagina patesi of Sirpurra among the official names mentioned is another confirmation.

The importance of the inscription, however, consists in the astonishing evidence it affords of the advanced stage of Chaldean civilisation even at the remote age of B C. 4500.

As I shall deal very fully with this important record in my new course of lectures at the British Museum next week (February 6), I will only trespass on your space with one remarkable extract.

All the land was purchased by the king, as we read more than once. "*Eglu* (sa) *X Manishtusu sarru Kish isim*," the field of X which Manishtusu king of Kish purchased, and as a specimen of the oldest known commercial records I will quote the following:—

Field of (3 × 1080) + (3 × 180) + (3 × 18) = 3,834 gan (padanu)
Its price.
(3 × 36000) + (3 × 600) + (3 × 60) = 12780 gur corn
at the price of 1 shekel per gur of corn
Its price being 8 talents 33 mana of silver (*i.e.* 12780 shekels).

40 Talents of Wool.			
Price at 4 mana of wool for 1 shekel.			
Ten mana	10 mana		
3 silver kililu of the weight of one mana *			
6 Bronze khazi			
4 ,, wedges			
3 ,, cleavers			
Price per instrument 5 shekels silver.			
Their value 1 mana 5 shekels	1	,,	5
12 (3 × 4) Asses or half a year.			
Price per ass $\frac{1}{3}$ mana silver.			
Their value 4 mana	4	,,	0
40 Jars of oil			
At the price 1 shekel for 10 ka oil			
Their value 3 mana.	3	,,	0
5 male slaves			
4 female slaves			
At the price of 1 mana silver per head value	3	,,	0
1 female child (marat) at 13 shekels value			13
Total 21$\frac{1}{3}$ mana less 2	21		18
In addition to price of the field.			

* These appear to have been returned and so are omitted.

Here we have indeed a remarkable revelation of the state of Chaldean civilisation 6,000 years ago. The land is carefully surveyed by appointed officials, the king's son acting as one of them; and the area in *padani*, the modern feddan, is given, the value is estimated according to the amount of corn required to sow the land—the unit being the *gur*, the Hebrew Kor our quarter nearly. The price is calculated at the current price of corn, here one shekel per quarter. We cannot estimate the price of silver so long ago. There is a regular silver tariff of the talent manet and shekel arrayed, as all the calculations are, according to a sexagesimal scale, and even the fractions are used. I have examined all the calculations and can find no errors whatever, even in very large amounts.

The curious relations between the king and his tenants, the presents, and the stipulations as to the payments, provision of food, &c., all indicate a perfectly organised state of society. This is confirmed by the numbers of names of officials and of trades mentioned. I will not trespass further on your space than to say that we have here one of the most valuable and astonishing proofs of the vast antiquity of the civilisation of the Tigro-Euphrates Valley.

As my lectures at the Museum are not official, may I ask those wishing to attend not to apply to the secretary of the Museum, but to Messrs. Luzac & Co., 46 Great Russell Street (opposite the Museum), who will supply all particulars?

The Fifth Ordinary Meeting of the Liverpool Architectural Society will be held at the Law Library, 41 Castle Street, on Monday next, the 4th inst., at 6 P.M.

The Institution of Civil Engineers announce that all meetings of the Institution are suspended until further notice.

TESSERÆ.

Irish Round Towers.

THE entrance door was narrow so that only one person could enter at a time; and it was always placed at a considerable height above the ground, not less, generally speaking, than from 10 to 15 feet. The walls, too, were at least 3 feet in thickness at the level of the doorway, which had two strong doors, one behind the other with the thickness of the wall between them. It is obvious that the purpose of the builders in thus keeping the entrance so high above the ground and the doorway so narrow was to make ingress as difficult as possible to the foe. In fact, a few determined men within the tower could easily keep the doorway against a host, whose only means of access would be by ladders or similar contrivances laid against the wall. If the doorway was to be forced at all it could only be done from an elevated platform on which men might work a battering-ram of some kind to burst in the door, and then set fire to the tower with combustibles—a contrivance that was, it appears, sometimes successfully resorted to, both by the Danes and the native chieftains. The towers also contained several lofts resting on off-sets—sometimes four, five or six—with small ladders leading from one storey to the other, each of which was lighted by a single small window. By this means the tower, though not usually more than 8 or 10 feet in diameter, could be made available for the accommodation of a considerable number of refugees. The topmost storey under the conical stone roof of the tower was far the most important. It contained at least four openings, looking to the four points of the compass, so that the watchman could readily perceive from that great height—at least 100 feet—the approach of the foe from any point of the compass. There he had his bell near him, either hung from the roof or rung by hand, to warn all the clergy and tenants of the Church lands that the foe was approaching. Their first care would then be to bring all the treasures of the church to the tower—the gold and silver vessels of the altar, the precious shrine with the relics of the founder, his bell, his crozier, his Gospel and its gem-studded cover, along with everything else which they prized. Provisions were also carried up the ladder. Stones and other missiles were collected in the topmost storey; all the clergy and neighbouring people took refuge in the tower; then the ladder was drawn up, the double doors were barred and all was secure. When the enemy came they might fire the church, but it was empty. All its valuables were gone. They dare not attempt to undermine the thick strong walls of the tower, often built on the rock, for missiles—deadly missiles from such a height—could be showered down upon them from the four large windows of the upper storey, which were sometimes nearly as large as the door. They could not force the door, for it was far above them, and ladders would be wholly useless. They could not starve the inmates, for the garrison took good care to provide themselves with provisions and water. They might sit down to besiege them; but meantime the whole country would rise, and the raiders might be utterly destroyed.

Churches on Hilltops.

There is a class of hills almost peculiar to Surrey and the adjacent parts of Kent and Sussex, and the churches found in them are not only admirably adapted to their locality, but scarcely occur anywhere else. We allude to steep yet low sand-hills, overgrown with furze and heath, frequently broken away on one side into a puny precipice and presenting a rich intermingling of colours. The churches, mostly early edifices, have neither bellcot nor spire, but something betwixt the two; a small wooden tower surmounted by a low spire of the same material, and both painted white. Sometimes the whole west end will be constructed of wood, as in the small church of St. Peter, Newdigate; sometimes the spire arises from the centre of the nave, as in St. Michael, Thursley. But the excellent effect of these edifices is striking. The eye, wearied with roving over the uncultivated and shapeless moorlands, rests with delight on the clear and sharply defined spire; and its whiteness is pleasing, contrasted with and subdued by the purple flush of the heath, the bright gold of the furze and the rich red hue of the excavated lane-side, when the slant ray of a morning or afternoon sun falls upon them. There are instances, also, of small chapels perched on the very summit of conspicuous hills which deserve attention. It will be found that their height is rather greater in proportion to their size than would be the case in any other situation. There were three chapels of this kind near Guildford—St. Anne's, St. Catherine's and St. Martha's. St Catherine's was a remarkable example of height, and this circumstance seemed to make it part and parcel of the hill on which it stood and protected it from the danger of appearing insignificant. St. Martha's was not so high; but its hill, though in reality much more elevated, has a much gentler ascent. The principle seems to be not to pain the eye by an abrupt termination or truncated cone. The chapel of the Holy Ghost, close to the Basingstoke station on the Southampton railway, was much like St. Catherine's both in position and character. Chapel Uny, on the other hand, near the Land's End, seems to have borne a closer resemblance to St. Martha; but it is so much destroyed that it is difficult to speak with certainty.

Roman Fireproof Construction.

The public buildings of the old Romans still remaining offer the best specimen of fireproof construction, as well as of general durability, of which we have any knowledge. Although repeatedly fired, battered and destroyed as far as the efforts of barbarous enemies could effect their destruction, numerous portions of buildings, and some entire temples and mausoleums, still remain to attest the superior construction of the ancient over modern buildings. The portico to the Baths of Agrippa, now the Pantheon, and the mausoleum of Hadrian, now the Castle of St. Angelo, are admirable instances of the strength and durability of their circular buildings with domed roofs; while the magnificent halls in the remains of the Baths of Titus and Diocletian and the golden palace of Nero are equally valuable specimens of oblong buildings with arched roofs. The walls of these buildings have the strength and solidity of natural rock; most frequently they are composed of two facing walls of brick, a brick in thickness, leaving an interval between them, which is filled up with coarse grout-work. Sometimes the facing walls are composed of small pieces of tufa (a freestone); these walls have been occasionally faced again with fine marble. The walls of some of the principal buildings are composed of immense square blocks of travertino, a porous marble of the country. The bricks are invariably sound and hard; their shape the large flat tile, the work with which is less liable to give way and bulge than with bricks of the modern shape. The mortar is perfect and the joints completely filled; the grit of the mortar appears to be pounded tile or tufa, always sharp and clean, and the grout-work consists of broken tiles, and sometimes tufa, embedded in mortar of the usual thickness, not flooded with a fluid mortar approaching to whitewash, as is now in use under the name of grout. That the mortar was not used in a fluid state is visible in numerous fragments, where small interstices are discernible, showing the shape of squeezed mortar. The peculiar strength of the Roman mortar is remarkable. In most cases the Roman walls are constructed like the trunk of a tree, broadest at the root and diminishing upwards, and, as is well known, when they raised their walls with grout-work they usually ran a double layer of their large tiles over their work at the height of every two or three feet.

River Names in England.

It is peculiarly strange that the names of rivers, and especially of more important rivers, should be memorials of the very earliest races. They seem to survive where all other names are changed; they seem to possess an almost indestructible vitality. Cities are seen to rise and to perish, the sites of human habitations are known to us no more, but the ancient river names are handed down from generation to generation and from race to race. Even the names of the eternal hills are less permanent than those of the ever changing waters. Over the whole of Europe we find towns known by Roman or Teutonic names standing on the banks of streams which still retain their ancient Celtic names. Throughout the whole of England there is hardly a river name which is not Celtic. With all other Celtic names, they most abound, of course, where the Britons remained longest in power; but they furnish, with very few exceptions, altogether the oldest topographical nomenclature in England.

Origin of Parishes.

Anciently the revenues of the whole diocese were, according to Bingham, all in the hands of the bishop. First, because in the early ages of the Church, there were no priests or deacons or other clergy for particular churches or congregations in the same city or diocese. These were served by any priest from the "ecclesia matrix" or mother church, to which all the clergy of the city or diocese belonged. Secondly, that when priests were fixed to particular churches in cities, or in the proasteia—the "suburbs"—yet still those churches had no separate revenues, but the maintenance of the clergy officiating in them came from the common stock of the mother church, into which all the oblations of particular churches were put, as into a common fund. Venerable Bede plainly intimates that in England up to A.D. 700, a century after the landing of St. Augustine, the bishop and his clergy lived together, and had all things in common, as they had in the primitive Church in the days of the Apostles. It is clearly admitted, therefore, by all our historians, that previous to the fourth century nothing resembling our parochial system formed any part of the Church's discipline in country districts, nor in cities before the eleventh. Exception, indeed, is made by some authors in favour of the two great cities of Rome and Alexandria, where the "tituli" or titles of the one, and the "laura" of the other bear some resemblance to our existing administration by parishes. Gradually, as time rolled on, the country clergy acquired some larger measure of personal responsibility, and to facilitate supervision were formed into groups of ten—"decem"—one of the group being invested with authority as "decanus" or dean. Hence our rural deaneries. But no definite adoption of the existing parochial system, at least in cities, appears, according to Bouix, before the year 1032, and then in the city and Council of Limoges. On that occasion the cathedral clergy complained of the independent action of some of their brethren in administering baptism and other sacraments elsewhere than in the cathedral church; but the Council ruled against the complainants, and thus almost insensibly the jurisdiction of parishes and of parish priests was introduced. Even so recently as the time of the Council of Trent, many dioceses in Italy retained the more ancient discipline and had no parishes, but the Council ordered conformity with the general custom.

The Orders in Early French Renaissance.

In the first efforts of Renaissance building in France the Classic orders were used in no very scholarly fashion; they were, however, it must be owned, handled and applied with a delightful sense of the picturesque, and if severity and simplicity are often wanting, an altogether surprising alertness of idea and fertility of resource are manifest on every hand. In the case of secular buildings the transition from the later Gothic was facilitated by the fact that square-headed openings prevailed already in that style, of which, too, the incontinence in ornament was acceptable to the exuberant spirit of the new art. The character of that ornament, however, was entirely changed; fantastic foreign arabesque took the place of the floral decoration which had been one of the glories of the French school. Meanwhile the love for aspiring forms lived on, and the tendency of complexity died hard. The wealth of sky-line produced by spires and pinnacles was perpetuated in high-pitched roofs, turrets, and tall-buttressed dormer windows. The sky-line of Chambord could have been conceived only by an architect having Gothic tradition in his blood. In other matters, too, we find the Gothic habit surviving. The external winding staircase, for instance, was long preserved, and we may see on a dainty façade of the time of Francis I. the survival of the grouped shaft in a fanciful colonnette engaged on a face of a pilaster. But most interesting to observe is the tenacious struggle of the vertical line throughout French Renaissance architecture. "The orders" with their bold entablatures did, it is true, compel some stress on horizontal lines, but their effect was at once balanced by an emphasised vertical grouping and uniting of the openings in the different storeys, and by projecting wings, towers and pavilions, which marked with perpendicular lines of shadow the elevation of the French buildings.

St. Urbain, Troyes.

The arrangement of the glass in St. Urbain at Troyes is worth notice. The choir is apsidal, and its north and south aisles are so also, and do not continue round it. The latter have two-light square-headed windows—one in each bay—the tracery of which is quite on the external face of the wall, and on the inside is partly concealed by beautiful open tracery filling in the spaces between the groining, and set flush with the internal face of the wall. In the choir apse the same idea is continued, but the monials of the detached tracery of the lower tier of windows are continued up as monials for the clerestory. In the lower range, therefore, the glazing is some distance back from the internal face of the wall, whilst in the upper range, or clerestory, it is within 5 or 6 inches of it. The lower windows being partially obscured by the open tracery in front are glazed with simple geometrical patterns, whilst the clerestory being in full view has a row of figures and canopies in rich colour filling one-hslf of the height, the rest being filled with simple diapers. The beauty of the whole artangement is extreme, and supplies much matter for thoughtful study for architects, as it illustrates strikingly the extent to which Mediæval architecture took into consideration the whole decoration of their works. With other arrangements of glazing it would be easy entirely to destroy the beautiful effect of the building, whereas now it is really wonderfully enhanced.

Assyrian Sculpture.

The ancient Assyrian sculptor was moved by high aims of artistic truth, however wanting he may have been in that culture and training which later times have developed. The men and the lions and the griffins that he carved looked strong, though he may have put their muscles in the wrong places He was an artist because, wishing to express strength, he used the materials that nature supplied in such a manner as to fill the beholder with the idea of strength. He made nature tell his story, and so had mastered the first and greatest principle of art—the expression of an idea. Of course, he rudely violated nature's laws. He carved a man's head on a lion's body, with eagle's wings, to embody wisdom, strength and ubiquity. To compel natural objects to tell his story he went far beyond the modest precincts of nature. Nevertheless, we cannot help feeling respect, nay, almost awe, for his imagination and tremendous courage. Though his means were unlawful he touched a great truth, perhaps the greatest truth of art, that of its being the expression of an idea. In this respect our aim to-day must be the same as his, but with this difference, that our means must always be lawful.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

The New Century.

Sir,—I do not intend to argue with people who are either ignorant of essential facts bearing upon the issue, or who deliberately ignore such facts. I propose rather to direct attention to certain incontrovertible truths which appear to have been too much overlooked throughout the controversy regarding the beginning of the century, and to consider how far these may be regarded as compatible with the contention that the century did not commence till the beginning of last month; and to avoid unduly taxing your valuable space, I shall select only three out of the many which might with equal propriety be adduced.

As to the first of these, then, it is an absolute rule that in the measurement of time, as of everything else as embraced in our authorised tables of weights and measures, every recognised measure must comprise the full number of parts specified in the respective tables before it can be recognised as having any existence. For example, 19 cwts. do not make a ton; if you have only 15 ozs. you cannot say that you have a pound; and unless you have 16 ozs. you never can have a pound. The pound you wish can have no existence, and in the same way you never can have a year till twelve months have passed; till then the year has no existence; you can only speak of months and inferior divisions of time. That, I think, is a demonstrable fact. A necessary consequence of the arbitrary rule is that you cannot enumerate divisions of time by anticipation; you must wait till they exist before you can number them; or, in other words, you must wait till they exist before you can take any note of them. I do not anticipate that anyone will venture to challenge the correctness of this statement.

The second fact I will mention is that cardinal and ordinal numbers have different significations. Many people who have of late used them largely and indiscriminately do not seem to understand this, and I shall only refer them to any good dictionary for their explanation.

My third fact is that it is contrary to all arithmetical precedent to give any figure two values. For example, to say that three means three at one time and that at another time it means four, or to say that nineteen means nineteen at one time and twenty at another. That, I think, cannot be questioned.

Now, with these facts before us we are in a position to appreciate some of the arguments used by those who desire to interfere with the old system of reckoning which has been in use in this country from time immemorial, and which is in perfect harmony with these facts. On the other hand, the advocates of the new system find themselves opposed by every one of them, and are obliged to veil their antagonism by a great variety of specious assumptions and misleading illustrations. Referring briefly to the first fact, they directly violate that rule by calling the first year of the Christian Era the first, and also the year 1 before the year had any existence at all. They speak of it as a year while they had only a right to speak of months. They ask innocently if I mean to say that the first year of the Christian Era was to be known as the year nothing. I merely say in reply (referring to my first statement) that there was no year at all till twelve months after Christ was born, and therefore that no one has any right to call it the year nothing or the year anything.

A Mr. Leaman, writing in the *Torquay Times* on the 18th ult., makes a most original suggestion for getting rid of the year nothing and beginning the Christian Era with one. His proposal is to cut twelve months out of the B.C. period and bury it there, and he seems quite oblivious of the fact that he thus merely begins the Christian Era from a year before the birth of Christ, which is absurd. Not more absurd, however, than to begin by naming and enumerating a year which has no existence. There is no recognised measure of time, however minute, which does not begin with nothing. We must wait sixty seconds before we have a minute, and sixty minutes before we have an hour; until that hour strikes we can only speak of minutes and seconds; and in the same way we must wait twelve months before any thing can be said about the year, and a hundred years before we can speak of the century, and so figures enumerating periods of time invariably denote periods of time past. There can be no exception to this rule, and it accords perfectly with the old mode of reckoning which is still in daily use, and fully explains why we say that the twentieth century commences as soon as the figures 1900 are recorded. It is hardly necessary to point out that as our notation commenced with a cipher, each successive decennial period must also begin with nothing, and that they cannot possibly begin with one. In perfect harmony with these facts are the figures which we now use to denote the distance we are in time from the birth of Christ, namely 1901, which in plain English, which it is impossible to misunderstand, means that we have nineteen complete centuries and one year, which necessarily forms part of a new century.

With reference to my second point, it is curious to notice how much confusion has arisen through confounding the two sets of numbers. One of your correspondents illustrates this when he asks me how I can consistently date a letter "the 12th," which I write at an early hour on, say, January 12, when the day is only beginning. I do so because it is the customary and proper way of indicating on which of the prescribed number of days which constitute the month I write. Twelfth is a term which conveys no information regarding the age of the day; it merely conveys information as to its position in relation to other days, whereas twelve would indicate that the twelfth day had been completed. The ordinal number may be used the moment the day begins, the cardinal number cannot be used till the day is complete, so that these terms, so far from being synonymous, cannot even be used simultaneously, for the moment you are entitled to use the cardinal number twelve has vanished and become thirteen. This, of course, is the reason why your correspondent and everybody else says—whenever the nineteenth century has ended—"we are now in the twentieth century," but we must wait for 100 years before we can say that it is now 2,000 years since the birth of Christ. It must be obvious that if you begin your enumeration with 1 you upset all that perfectly intelligible arrangement and can dispense with the ordinals altogether. The year 1 is simply one, the year 2 two and so on, and when you reach the twentieth as we have now done, you have only to write it down as twenty not as nineteen, whether you call it twentieth or not.

Regarding my third statement, little need be said. It requires no comment. It is a ridiculous dilemma, from which the only way of escape is to adhere to the old-fashioned system of reckoning, realising the fact to which I have first called attention, namely, that our figures indicate the completion of a period, and then the accepting the statement, as plain as words can make it, that the nineteenth century was completed on January 1. One year and one month have passed since then; in other words, that it is now nineteen centuries one year and one month since the birth of Christ. If people object to the accuracy of the phrase "nineteen hundred and one," why don't they suggest another as concise and intelligible, expressing their views on the subject?

One of the most remarkable things connected with this controversy is the attitude of the Press. Our journals, with few exceptions, have given their assent to the opinion that the twentieth century only commenced a month ago; they have almost unanimously gone with the multitude. I do not say that this has been due either to want of courage or want of sense, but it is a fact worthy of emphasising; and yet notwithstanding this—let us hope—temporary lapse on the part of the press, and continued delusion on the part of the populace, it is strange that both continue in practice to adhere to the good old chronological method; and so among all the interesting statistics connected with events during the Queen's reign which have recently appeared in the newspapers, there is not one instance in which the new method has been adopted. Why is this?

I must leave both press and people to find a satisfactory answer.—Your obedient servant,

JOHN HONEYMAN.

The Master Cordwainer on London Architecture.

SIR,—It is to be regretted that you did not speak last week in stronger terms about the disparaging remarks of the Master of the Cordwainers' Company when proposing at the banquet the principal toast "The Fine Arts" His oration was chiefly directed against architects, but he included everybody when he stigmatised the English nation as being the most inartistic in Europe. He appears to be one of that growing class of men who think it necessary, in order to distinguish themselves from the common run of mortals, to adopt as motto the *nil admirari* of Horace. As a consequence, when they air their opinions in public they are liable both to give offence and to reveal the shallowness of their ideas. What sensible-minded person would make such a sweeping statement as that there was not a modern building in London worthy of the admiration of generations yet to come, and that from their ugliness they were all contemptible? It would be a sign of weakness to mention any exceptions, as by so doing we admit the possibility of there being some truth in the statement. But anyone could cite edifices which any age could be proud to claim. Mr. Marcus Stone, R.A., when replying for "Painting," I am glad to say aptly expressed his disapproval, but the sacred laws of guest-hood apparently acted as a curb to outspoken language. He significantly declared that beyond all things he liked the man, who "does not know all about it."

If it were not for the position the Master holds, his speech could be passed over in scornful silence; but as the Master of a City company his words are entitled to and receive a certain amount of attention, and *ipso facto* should be as rational as possible. So far as we know there were no representatives of architecture among the distinguished gathering, which may account for the Master's freedom of speech. We all admit that each individual has a right to his own opinions, but it is questionable whether it is courteous on the part of an official host to express them when they come into direct contact with and cast some reflection on the ability of absentees, as was the case in the present instance. Apologising for taking up your space, but doing so as the protest of one who has watched with interest and admiration the strenuous efforts, of which the Strand improvement is an instance, to beautify our thoroughfares,—I am, yours obediently, H. F.

GENERAL.

Mr. Reginald Barratt, whose architectural drawings were always interesting, has been elected an Associate of the Royal Society of Painters in Water-Colours. At the same meeting Mr. Walter West, Mr. Anning Bell and Miss M. Smythe were also elected. There were eighty-one candidates.

Signor Monteverde, the Italian sculptor, has undertaken to gratuitously execute a bust of Verdi for the Senate.

Sir J. W. Maclure, M.P. for the Stretford division of Lancashire, died a few days ago. As churchwarden of Manchester he raised nearly 50,000*l.* for the purpose of restoring the old parish church, which has since become the cathedral.

The Materials of the Exhibition buildings on each side of the Esplanade des Invalides, Paris, are to be sold by auction in lots on February 8. Everything is to be cleared away within six months.

The Russian Artist, Vassili Vereschagin, is about to visit China, in order to produce more pictures which will show war deprived of its pride, pomp and circumstance.

The Improvements Committee of the London County Council have been authorised to incur expenditure on capital account up to 1,315,000*l.* for the purpose of the improvements in respect of the Thames Embankment extension and Westminster improvements at Millbank.

M. Carlès has completed the model of the monument of Pasteur to be erected at Dôle, the funds being raised by international subscription. The base is adorned with figures of Science and Humanity. It is expected the group will be in position next year.

The Roman Catholic Bishop of Leeds has caused plans for a new cathedral to be deposited with the city authorities of that town. The building, which is to take the place of St. Anne's, will occupy a site between the Masonic Hall and Cookridge Street. It is estimated that the cost of the cathedral, together with that of the presbytery, will be 33,000*l.*, which will be defrayed out of the sum, estimated at 46,000*l.*, due from the Corporation in connection with street improvements.

Mr. Edwin Seward, of Cardiff, has obtained the first premium of 100*l.* in the competition for the offices of the Swansea Harbour Trust.

The Society of Engineers will hold its first ordinary meeting for the year 1901 on Monday next, at the Royal United Institution, Whitehall, at 7 30 P.M.

The Architectural Association.—On account of the death of Her Majesty the Queen the ordinary general meeting advertised for Friday, February 1, has been postponed to February 8, at 7.30 P.M.

The Northern Architectural Association announce that in consequence of Her Majesty's death Mr. Greenwell's lecture has been postponed. They have also passed a resolution conveying to His Majesty the King and the Royal Family the deep sympathy of the Association in their great sorrow, and at the same time to express their sincere loyalty to the Throne of these realms. The next meeting will be held on Wednesday, February 6, at 7.30 P.M., at 36 Northumberland Street, Newcastle-upon-Tyne, when Mr. Robt. A. Wood, B.S., M.E., of Manchester, will lecture on "Luxfer Prisms and Prismatic Lighting, Theory and Application." The lecture will be illustrated by models, lantern and blackboard illustrations.

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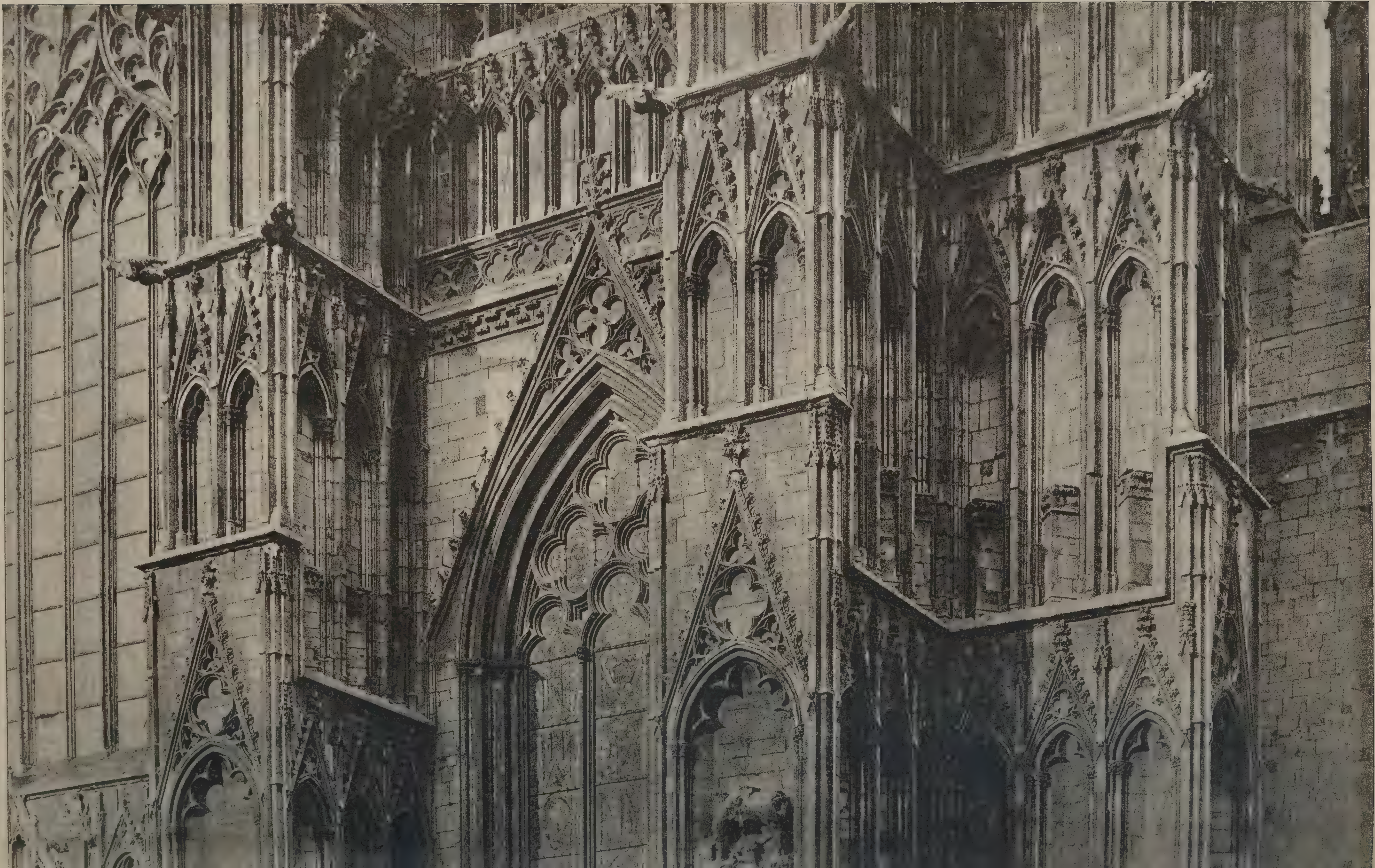

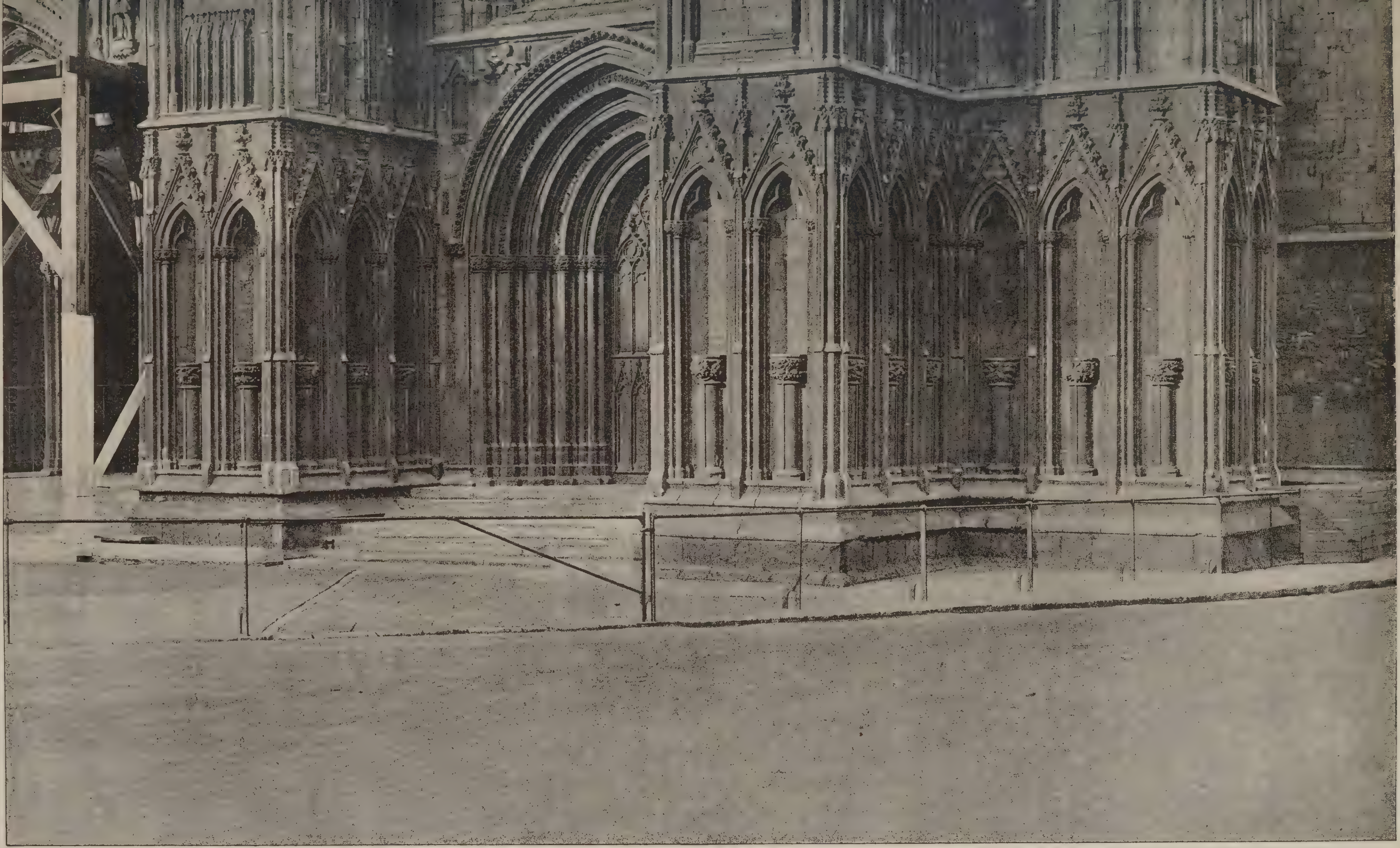

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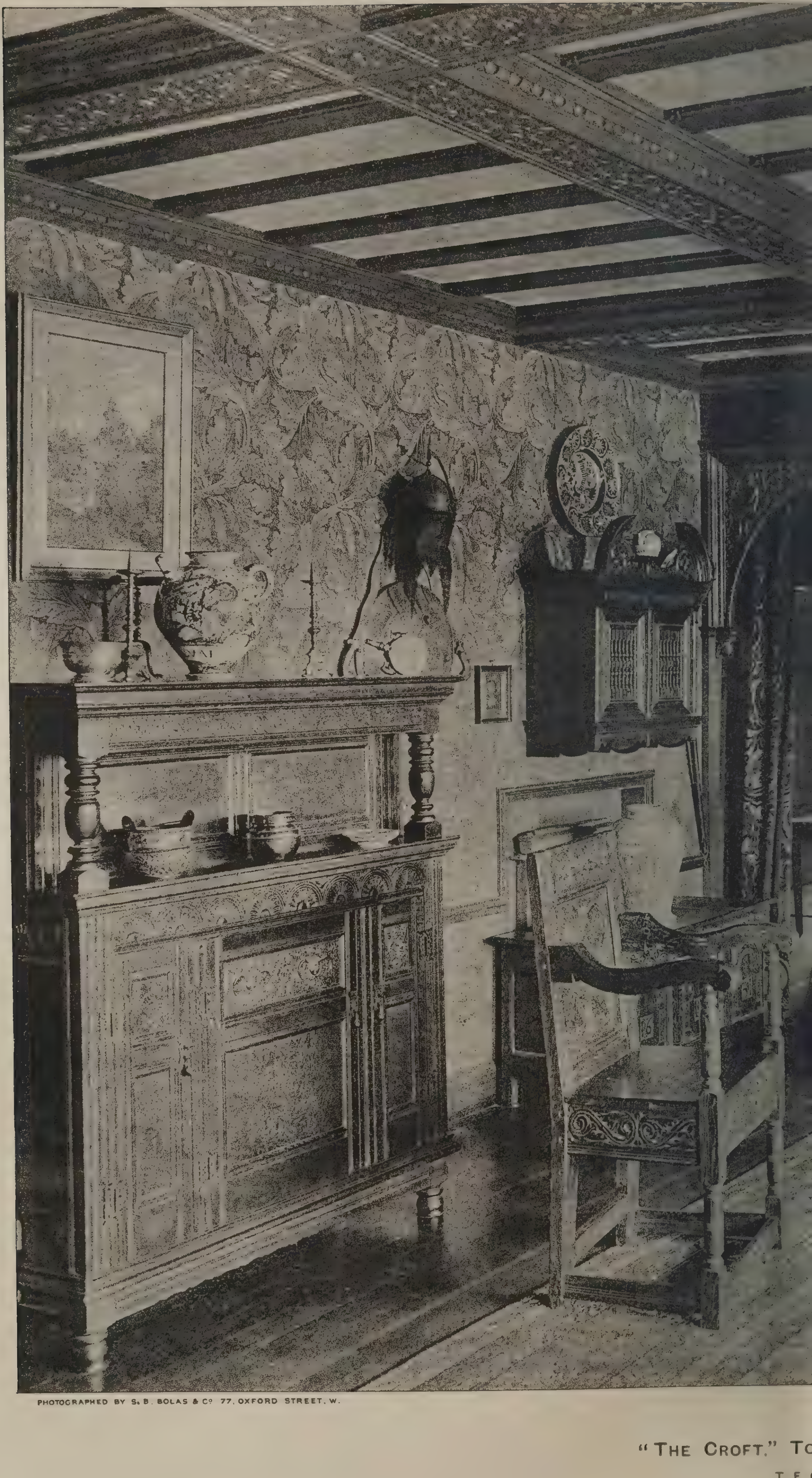

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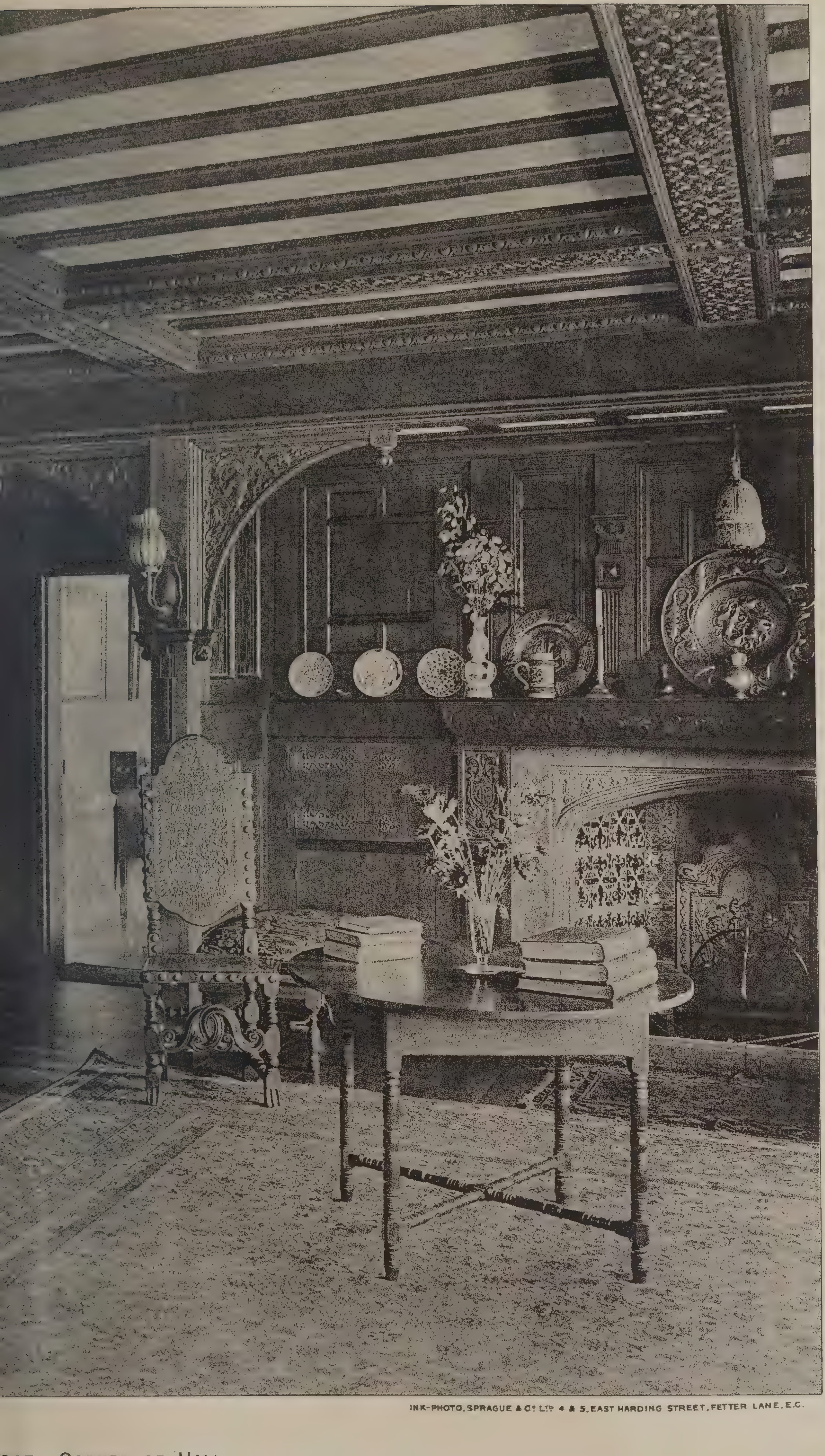

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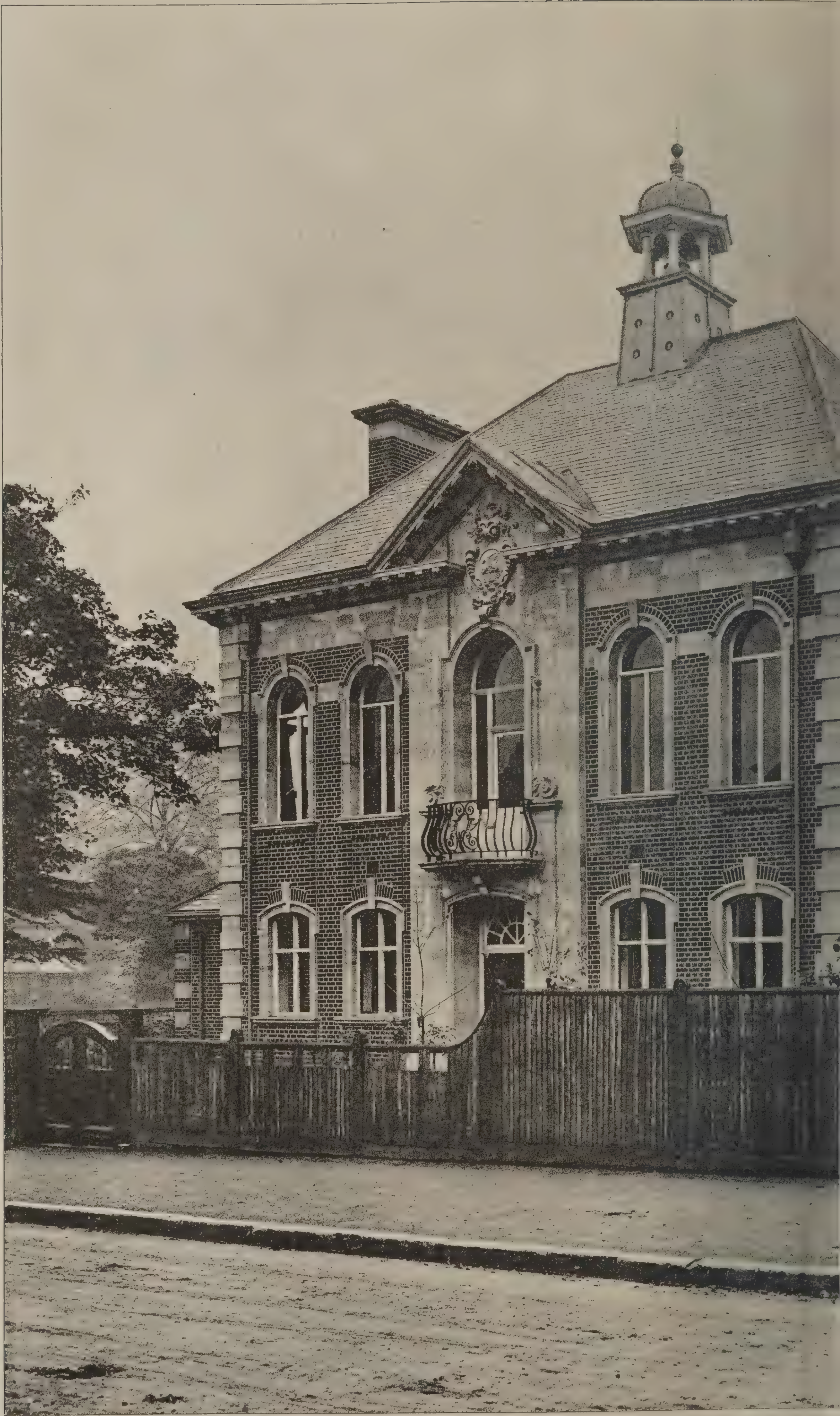

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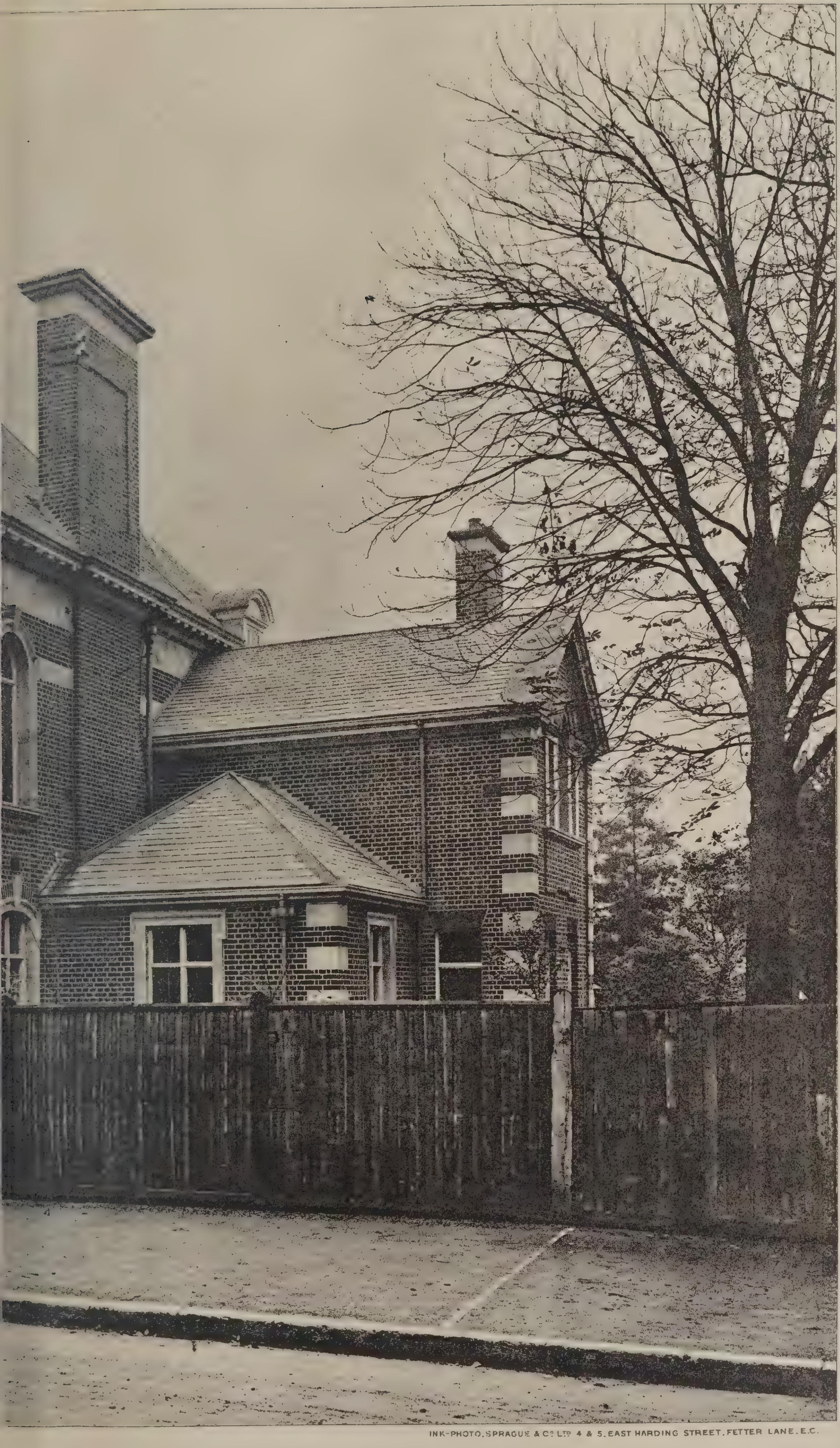

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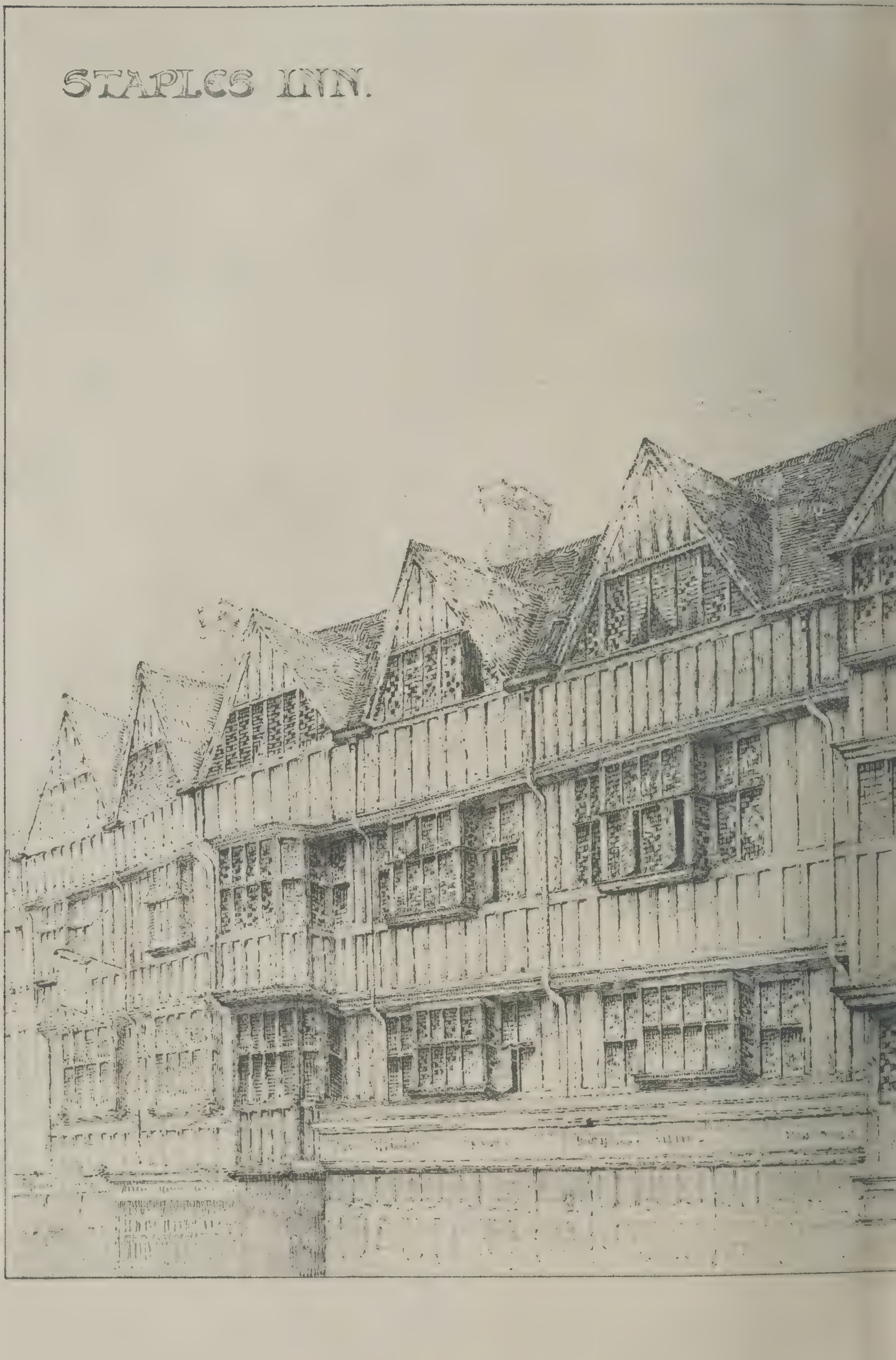
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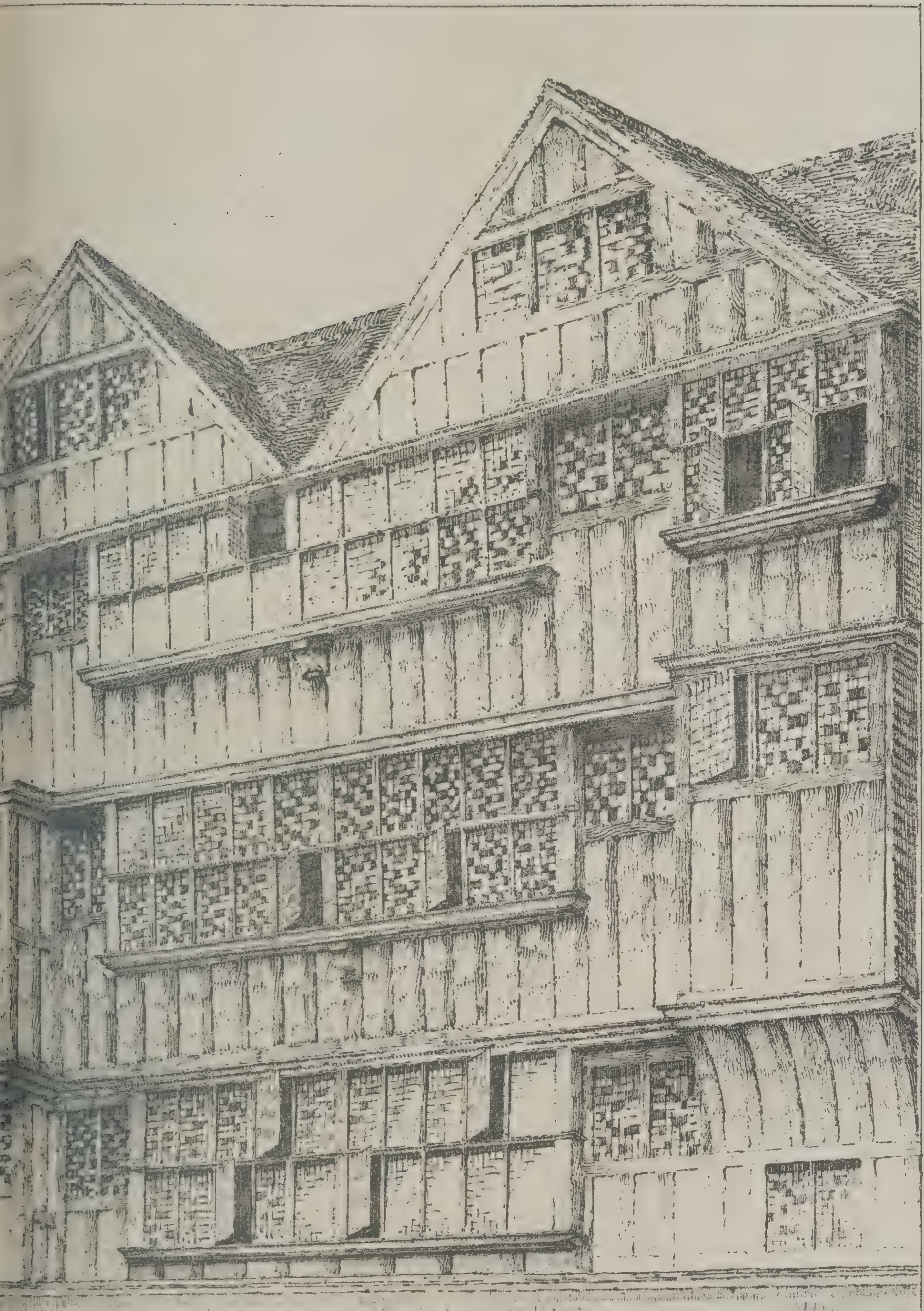

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The Architect.

THE WEEK.

It was generally understood that the interesting museum near the Lordship Lane station, which was lately erected by Mr. F. J. Horniman, M.P., at a cost of 40,000*l.*, with its contents, would be presented as a gift to the Metropolis. On Tuesday last the Chairman of the London County Council received a letter from Mr. E. J. Horniman, announcing that not only the museum and its collections were offered as a free gift to the people of London, but other property also. It consists of a large house known as Surrey Mount and some 9½ acres of pleasure-grounds on the summit and slope of a hill commanding extensive views over south-eastern and south-western London. The site is a suitable one for a park or recreation-ground, and has been open to the public during the summer months for four years. Over 200,000 persons visited it during fourteen months in 1897 and 1898. Six residences, occupying some 5½ acres of ground, now let on leases of diverse terms, and bringing in an income of 600*l.* per annum, could be used for the maintenance of the museum until the tenancies fall in, when the land could be added to the recreation-ground, and additions made to the museum if necessary. There is also a library of 5,500 volumes of travel, natural history, &c., and a Biblical library of 700 volumes, containing many early and rare editions. The museum is a stone building 258 feet long by 61 feet wide, with a superficial area of 16,485 square feet. The principal condition attached to the gift is that the museum and grounds are to be maintained in a proper condition and dedicated to the public for ever. A vote of thanks to Mr. Horniman was passed, and the general purposes committee are to take the necessary steps for obtaining the transfer of the property to the Council.

The French Government have sent to the Queen of Holland a fine example of Gobelins tapestry. The subject represented is *Romance in the Eighteenth Century*. It was designed by M. Maurice Laloir, whose knowledge of the period was displayed in the illustrations to his fine edition of Sterne's "Sentimental Journey." The artist, however, gained his reputation by drawings which dealt with life in the preceding century. The tapestry measures about 12 feet by 7 feet 6 inches. It was commenced in the Parisian manufactory on February 8, 1897, and occupied three of the principal weavers until December 30, 1899. It was from the first intended to be presented to the Queen of Holland, although it was not anticipated it would be the French marriage gift.

One of the difficulties in building contracts is connected with what is known as specific performance, and therefore it is rarely introduced. There is no question that at one time a promise to build a house would be specifically enforced, and Lord Hardwicke laid down that upon a covenant to build a landlord might come into equity for a specific performance, as the not building deprived him of his security. But later authorities are opposed to that practice, and hold that a proper course is to direct an inquiry as to damages. Indeed, Lord Kenyon maintained that a specific performance is only decreed where the party wants the thing in specie, and cannot have it in any other way. A case which turned on specific performance was heard in the Court of Appeal on Friday last. It related to an agreement entered into by the Corporation of Wolverhampton and one Samuel Emmons. The plaintiffs conveyed to him a piece of land in the town, and he covenanted to erect on it a new building or buildings of a minimum height of 35 feet. His plans for eight houses were approved. Operations commenced and ended with the demolition of some buildings which stood on the site. The new houses were not erected because the defendant considered the neighbourhood was overbuilt. The plaintiffs brought an action against him. It was pleaded in defence that the Court would not grant specific performance (for that power is supposed to be a privilege of Chancery), and 40*s.* were lodged as sufficient compensation for the damages. Mr. Justice Wills, who heard the case, was of opinion that the plaintiffs were entitled to an order of specific performance, but the jury were asked to fix the amount of damages to which plaintiffs were entitled. They assessed the amount at 50*l.*, and Mr. Justice Wills then ordered for specific performance, or, in other words, the faithful carrying out of the agreement. Application was accordingly made by the defendant to the Court of Appeal to set aside the judgment for specific performance; but their Lordships dismissed it. The Master of the Rolls said that the action should not have been brought in the Queen's Bench Division, but in the Chancery Division. Moreover, the covenant was too indefinite for specific performance. His Lordship, however, considered that it was a case for specific performance, for it was not fair to allow the defendant to break his contract. The loss to the Corporation from the land remaining to be occupied could not be estimated in damages. Lord Justice Collins concurred, and decided that Mr. Justice Wills was justified in granting specific performance. Lord Justice Romer, in taking the same view, said he assumed it to be a general rule not to grant specific performance of a building contract. But there were certain recognised exceptions to that rule. It was necessary to establish, first, that the nature of the building work was so definitely ascertained, the Court might know what the work was; secondly, that the plaintiffs had a substantial interest in having the contract specifically performed, and that that was an interest which could not be adequately compensated by damages; and, thirdly, that the defendant had by reason of the contract obtained possession of the land on which the building was to be erected.

Irish lawyers have reason to bless the day when county councils were introduced in the Emerald Isle. The new authorities seem destined to create innumerable cases to exemplify the law's delay. At least a week has been occupied in arguing the question whether the Local Government Board could legally increase the salaries of one of the county surveyors and a few of his assistants. After the display of so much law and logic the judges were to be excused if they required time to deliberate before coming to a decision. When given it will probably not be taken as applying to other counties, and as there are no less than thirty-two it will be seen what a profitable future awaits solicitors and barristers. Another action will be more suggestive of the litigious spirit of the councils. We recently referred to a case in which the County Council of Donegal sued the High Sheriff. It was this week before the Court of Appeal. The origin was trifling. In Lifford is a public building known as the County House, which from the time of its erection has been used by the Grand Jury as a club-house, and was therefore in charge of the High Sheriff. The County Council took possession of it, but the High Sheriff turned them out. An action was immediately brought by the County Council for trespass. When the case was tried the special jury found that the building was the County House, but for some reason Lord Justice Walker who presided would not give judgment. The case then came into the Queen's Bench Division. One judge was in favour of the County Council, while two were for the Sheriff, so judgment was entered for him. In the Court of Appeal the three judges unanimously decided for the Sheriff, who was therefore allowed his costs in the inferior courts. An action of the kind could easily have been settled out of Court on more economical terms, but when rights of any kind are supposed to be at stake in Ireland the ratepayers' money is not spared.

The variations in the prices of iron which have affected so many contracts were the subject of a statement by Sir John Harwood, chairman of the Manchester waterworks committee, on Wednesday. It had been arranged to provide a supplementary supply from Thirlmere. For that purpose 50,000 tons of pipes were required. When the committee obtained tenders they were astounded at the cost, and, although there was a risk of an inadequate supply during the dry season, they decided to wait until prices were lower. After six months they were able to purchase the pipes at a reduction of about 70,000*l.* The cost of the work will be nearly half a million sterling, of which sum 250,000*l.* will represent the pipes and 150,000*l.* labour.

SOME ROYAL BURIAL PLACES.

By the erection of the memorial chapel and the arrangement for her burial beside her husband, our late revered Queen departed from the general tendency of royal precedents in this country. There is, however, much to be said in support of what has been done, if it were not beyond criticism. In the first place, opinion is becoming opposed to the employment of churches as places of burial. Then it must be borne in mind that the relatives, friends and descendants of those who have passed away are desirous of privacy in their visits. To commune with the dead is difficult in a public building or a public cemetery. English people are not demonstrative, and on that account mausolea have been set up in many private parks. The example which was set by the late Queen is likely to extend the practice of seeking more seclusion for monuments.

There is another circumstance which it is impossible to forget, although it is devoutly to be wished it may have no weight in the future. Rulers have generally been regarded with reverence in England. But it cannot be overlooked that from time to time their resting-places were violated. In the madness of civil commotions graves are not always respected, and it is only necessary to cross the Channel to find evidence of what can be done on such occasions. Private property in this country is likely to be treated with more consideration than what is public. In the time of our worst tumults the houses of the cavaliers fared better than churches and cathedrals. It is preferable, however, to glance over the past rather than attempt to gaze into the future.

It would be difficult to discover any law by which the positions of the royal burial places of England were determined. Wherever the capital was kings lived in it as long as possible, and their tombs would not be far removed from it. It could not be said that kings and queens were particularly attracted by any peculiar sanctity ascribed to a building, although that was common in foreign countries. Canterbury is an instance of this peculiarity. There is no doubt the cathedral was long believed to be a holy place, and it might also be thought that royal personages would be likely to make some amends for the act of Henry II. But numerous as are the tombs there is only one of a king, Henry IV., and one of an heir to the throne, the Black Prince. There is also one dedicated to the second queen of Henry IV.

When we are told that many kings are buried in Winchester Cathedral we should remember that the city was for a long time the capital, and whatever church stood there was the most important one in the West Saxon territory. But when we find that Alfred erected an abbey for his chaplain Grimbald, in which he wished to be buried with his family, it is to be inferred that even in the ninth century the claims of the cathedral could be easily set aside. Canute must have had an affection for the cathedral, for he bestowed many gifts upon it, and, according to tradition, after the scene on the sea-beach at Southampton he gave another lesson to the courtiers against insincere flattery by placing his crown on the crucifix upon the High Altar. But Edward the Confessor, who succeeded him and who was crowned at Winchester, was not buried there, but in the new Abbey of Westminster. The unlucky Harold after his defeat at Senlac was interred in Waltham Abbey, which he had founded.

The early Norman kings were unable to regard England as their home, and, besides, their interests in France rivalled those in this country. When the Conqueror died at Rouen there was a general fear of the consequences. The palace was robbed by William's retainers, and the corpse was allowed to remain in a state of nudity for three hours on the ground. At his own expense a knight named Hurluin had it conveyed to Caen, in order that it might be buried in the church of St. Stephen, which the monarch had founded. Every one knows how Asceline Fitz-Arthur protested against the burial on the ground that the land on which the abbey was erected was his, as it had been taken by violence from his father without payment. It was only by the handing over of 60 shillings and the promise of a further sum that the burial was allowed to take place. The body of William II. was conveyed in a cart to Winchester, and if it were not out of respect to his rank he would not have been allotted a grave in the cathedral. But at his funeral not even "maimed rites" were permitted. Henry I. succumbed to fever in Normandy, and his body was divided between the church of St. Mary at Rouen and the abbey at Reading. King Stephen died at Canterbury, but was buried at Faversham. At the dissolution of the abbey his bones were cast into the sea, and the leaden coffin was melted down. When Henry II. expired in Normandy his corpse was as much dishonoured as the Conqueror's. He was buried without much ceremony in the convent of Fontevrault. King John, who died at the castle of Newark, was interred at Worcester.

With Henry III. the importance of Westminster Abbey as a royal resting-place may be said to have commenced. The king had rebuilt the greater part of the Abbey, and to many Englishmen it had become the most magnificent church in Christendom. His body was deposited in the coffin which contained the bones of Edward the Confessor before they were removed to the splendid shrine. Henry was the first of the kings who was laid near the Confessor. There was no special chapel erected for his interment, but the whole Abbey can be considered as recalling him. Edward I. like his consort also found a resting-place in the Abbey. It is remarkable that although he set up so many Eleanor crosses as memorials of his wife, no arrangements were made to erect a splendid monument to himself. But there is one interesting memorial of him—the coronation chair covering the "Stone of Destiny" brought from Scone. His son Edward II. came to a violent end in Berkeley Castle, and his body was privately interred in the abbey church, now the cathedral of Gloucester. It was not altogether a disadvantage, for the oblations on the king's tomb replenished the treasury of the abbey and enabled new works to be carried out. Mr. E. A. Freeman, however, said he was disposed "to make it a new count in the articles of deposition against the unworthy king that this misguided devotion has cost us the minster of Serlo in its perfect form, and hinders us from studying the contrast which we should otherwise have been able to mark between its eastern and its western limb." Edward III. died in obscurity at Sheen and was buried at Westminster. But his brave son, the Black Prince, died at Canterbury and was interred in the cathedral. Richard II. met his death at the castle of Pontefract; the corpse was carried to Westminster, where a dirge was chanted for him; but Henry IV. would not allow him to be left there, and he found a grave at Langley. Henry IV. was buried at Canterbury, but Henry V. lies in Westminster, where there is a chantrey bearing his name. The sculpture representing the king attended by warriors is described by Flaxman as furious and warlike, while the standing figures have a natural sentiment in their actions and simple grandeur in their draperies such as we admire in the paintings of Raphael. It is uncertain whether his unhappy son, Henry VI., was finally buried at Chertsey or at Windsor.

Henry VII. was no doubt justified in erecting a chapel which would serve for a succession of rulers that would continue as long as England itself. The building took at least fourteen years to complete, and according to Holinshed cost 14,000*l.* That was an enormous sum at the beginning of the sixteenth century, for three centuries afterwards the restoration of the exterior alone cost over 40,000*l.* It cannot be stated with any certainty who was the architect. Henry VIII. was not buried in his father's chapel, but at Windsor. Edward VI. was therefore the second Tudor sovereign to be interred at Westminster, being followed by Queen Mary and Queen Elizabeth. The last named has a magnificent tomb; her elder sister is without one. James I. was buried in the same vault with Henry VII. Charles I. is buried at Windsor and Charles II. at Westminster. James II. lies at Paris, but his daughters Mary and Anne repose in the same grave at Westminster, while William III. is a co-tenant of a vault with Charles II. George I. preferred a grave at Hanover, and the only representative of the reigning family in Westminster is George II. His three successors were buried in St. George's Chapel, Windsor. The record we have given will suggest the numerous places in which kings of England have been interred. Westminster alone can claim to possess the remains of a succession of monarchs.

France has its equivalent for Westminster Abbey in the ancient church of Saint-Denis, outside Paris, which is also of great interest in the history of Gothic architecture. In its pre-Gothic days the church was several times rebuilt or restored by kings. The names of Chilperic and Dagobert—who were of a different class to their modern representatives in comic opera—Pepin and others are associated with the early buildings. Among the rulers who were buried there were Dagobert and his wife Nanthilde, his sons Sigbert II. and Clovis II., Pepin, Charles the Bald and Eudes. Of the thirty two kings who reigned from the time of Hugues Capet to Louis XV. twenty-nine were buried at Saint-Denis. By reason of the number of defunct royalties interred there the church became an object of vengeance with the first revolutionists. In 1793 it was decided to celebrate one of the national festivals by the destruction of the tombs. First the monuments in the upper church were demolished, and then those found in the crypts. The bronze was utilised for the manufacture of cannon and the lead coffins for bullets. The remains of kings and queens were cast indiscriminately into immense pits. The reliquaries and altar-plate were sold or melted. A deputation of the town parted with them after a mock-heroic address, in which the objects were addressed as instruments of fanaticism, and were told to serve the country by allowing themselves to be melted into money at the Mint, and in that way to add to the happiness of Frenchmen on earth instead of in heaven.

Napoleon knew the value which should belong to so historic a building, and when it was on the point of destruction he saved it. In 1806 he also issued an imperial decree by which it was to become the place of sepulture for the Napoleonic dynasty. By this means he hoped to make it apparent that he bore some resemblance to the Pepins and Capets of former days. He also ordered the restoration of the building; but the Emperor fell before the work was completed. It was not, however, neglected, and in the course of about forty years over seven millions of francs were expended on the building. Napoleon III. was far from indifferent to the projects of his uncle. Viollet-le-Duc was appointed architect, and he proposed to undo the greater part of the modern restoration. But the Saint-Denis of the present time does not gratify the eyes of a lover of Gothic. If royalty should be again supreme in France the church is not likely to be selected by kings and queens as a last resting-place.

It was through its connection with royalty that the church and abbey of Saint-Denis became of unique importance. Some of the kings were proud to be known as honorary abbots. For centuries the princes of France were educated in the abbey, and many retained so much affection for it that afterwards when they were ill they were immediately transported there, as if it were an hospice for dying grandees. Louis XVII. was the last king to be buried in Saint-Denis. The royal funerals up to the time of Louis XV. were magnificent displays of ostentatious grief, but at the funeral of the daughter of Louis Bien-Aimé all reverence for the dead seems to have passed away, and if the records are to be trusted, the ceremony was a burlesque.

Another interesting burial place is the round church in Aix-la-Chapelle. The description which Eginhard gives of Charlemagne, the founder of it, emphasises the diverse elements of which the great warrior and legislator was made up. We are told that he practised in all its purity and fervour the Christian religion, and that he was faithful to the doctrine and precepts he was taught in his childhood. Hence it was, says his biographer, he had constructed at Aix-la-Chapelle a magnificent basilica, which he adorned with gold and silver, with candelabra, with grilles and gates of massive bronze. For it he had marbles and columns brought from Rome and Ravenna, which could not be procured in any other place. He assiduously attended in this church—in the evening, in the morning, and even during the night—so long as his health permitted. He introduced many ameliorations in the reading and the psalmody, for he was very able in both, although he never read in public, and he was content to chant in a bass voice with the rest of the assistants. But in his seventy-second year Charlemagne was seized by a violent fever. He had recourse to his favourite remedy, which was abstinence from all nourishment. Pleurisy then supervened, but he still remained without food, and after seven days' illness he died. He had given no orders about his place of sepulture, and at first there was some hesitation about the choice. But it was decided that in no place could he be more honourably interred than in the basilica which was constructed at his expense. He was therefore buried on the day of his death, and over the tomb a gilded arcade was erected bearing an inscription in which he was described as the great and orthodox emperor, for the phrase "Carolus Magnus" originated some time after his death.

If Mr. Fergusson had read Eginhard, he would not have stated that "Charlemagne seems to have felt it necessary that he should have a tomb which should rival that of Augustus or Hadrian; while, as he was a Christian, it should follow the form of that of Constantine, or the most approved model of the circular church, which was that which had been elaborated not very long before at Ravenna." The church of all others for which Charlemagne had a predilection was St. Peter's in Rome. Eginhard tells us how the king bestowed upon it valuable objects in gold and silver besides precious stones. It was his wish that the building should be not only defended and protected by him, but by means of his gifts should surpass in ornaments and riches all other churches. We may, therefore, conclude that Charlemagne would have wished to be buried in a building he liked so well. But as he was annoyed because Pope Leo styled him Emperor and August, titles to which he was more than indifferent, he may have thought that if he were buried in St. Peter's the Roman or Greek emperors would be irritated by the claims to supremacy which would be set forth in the inscriptions on his tomb, and his successors with their subjects might have to suffer in consequence. Mr. Fergusson admits there is a considerable resemblance between the church at Aix-la-Chapelle and Saint-Vitale at Ravenna. But he prefers "to consider it as one of a long series of similar buildings which there is every reason to believe existed in Germany at that age. Its being designed by its founder for his tomb is quite sufficient to account for its being of circular plan." Mr. Freeman is better informed when he says Charlemagne's church is a direct copy of Saint-Vitale, and for it, as in other buildings in Aix-la-Chapelle, Ravenna supplied the materials. "The letter is well known in which Pope Hadrian gives leave to the Frankish king and Roman patrician to remove marbles and columns from the palace of Ravenna, and there can be no doubt that some at least of the monoliths which adorn the dome of Aachen were once among the enrichments of the fallen house of the great Goth. The man whom at Aachen we revere as a founder, we are tempted at Ravenna to curse as a destroyer." It should be mentioned that Signor Raffaele Cattaneo, whose knowledge is unquestioned, has arrived at the conclusion that Charlemagne's church shows in its details the pure Byzantine and not the Italian style of the epoch, and must be considered as the work of Greek architects. As in modern times it is disputed whether Charlemagne should be considered a German or a Frenchman, for nobody can tell where he was born, the church in which he reposes can also become a subject of controversy. But about the greatness of the monarch there can be no question. It should give satisfaction to us to know that his principal agent in the cultivation of his empire was the Anglo-Saxon Alcuin, and that two itinerant Irish scholars who cried out in the streets, "Who wants wisdom? Let him come to us, for we have it to sell," found favour and protection with him.

Among the memorial chapels of Europe we are justified in including the building which many regard as the greatest church in the world. Its construction for that purpose gave rise to a religious cataclysm, of which Europe ever since has felt the effects. The ancient basilica of St. Peter in Rome, on which Charlemagne would have lavished all the gold of the Indies if he possessed it, was thought by Pope Julius II. to be ill-adapted to contain his monument, and therefore it had to give place to the present structure. Ranke, the historian, looks on the event with philosophic calmness, believing it to be a necessity for the development of art, which had become, he says, too subservient to faith. But year by year the influence of antiquity grew more manifest. Was it not therefore significant, he asks, that a Pope himself undertook to pull down the old basilica of St. Peter, the metropolitan church of Christendom, every spot in which was hallowed, in which were gathered together the memorials of so many centuries' veneration, and to erect in its stead a temple planned after the proportions of antiquity? Not only was Michel Angelo anxious to have a shrine on a vast scale to contain a monument of which the colossal statue of *Moses* is a fragment, but Bramante was at the same time ambitious to erect a structure beside which the Pantheon would appear insignificant.

On the other hand, there was great opposition. According to Panvinius, the Pope had men of almost all classes against him, and especially the cardinals; not because they did not wish that a new basilica should be built with the utmost magnificence (a project had been approved by an earlier Pope), but because they grieved to think that the old one should be pulled down, revered as it was by the whole world, ennobled by the sepulchres of so many saints, and illustrious for so many great things that had been done in it. But the opposition was powerless against the two artists. Bramante was, if anything, the more eager to have the new building commenced. It is said by Condivi that not only was no record made of the buildings before they were demolished, but the work was carried out with such haste as to compel Michel Angelo to protest to the Pope about the needless destruction of columns and the irreparable injury to valuable works of art. Julius was able to defy all obstacles, and he laid the foundation-stone of the new church. But Nemesis apparently pursued him; he died long before the building was completed. He is without any special monument in St. Peter's, and the part of his that was executed is to be seen in the church of S. Pietro in Vincula, where it is without meaning, for the church was not the Pope's burial place.

Once commenced it was necessary to continue the new temple. Sixtus V. became so anxious to see its completion, it was feared he would destroy all the ancient work in Rome and carry off the materials to St. Peter's. When the cupola was undertaken he kept 600 men at work day and night; but he also failed to see his dream realised. Formerly, says Ranke, the most trifling monument was reverenced as a relic of the antique spirit; now there was a much greater proneness to destroy those relics. Men allowed a single idea to become predominant, and would tolerate no other alongside it. It was reserved for Paul V. to undertake the general completion of the building. But the result would have amazed both Bramante and Michel Angelo.

So many pontiffs were connected with the work, no modern visitor would think of giving a monopoly of the credit for the building to any one among them. It cannot, therefore, be said to be the sepulchral chapel of any individual. The ambition of those who were concerned in superseding the old building has therefore been frustrated. Of late years the tendency is to associate the magnificent church with the simple fisherman whose tomb is believed to be far beneath the dome, in an unexplored vault among the ancient foundations.

THE GROUPING OF PUBLIC BUILDINGS IN A GREAT CITY.*

The title of the paper that I have been asked to prepare implies the admission of the fact that buildings of any description gain in effect by being grouped, and that isolated buildings, of whatever individual merit, are insignificant in comparison with massed constructions, even if these latter be comparatively mediocre in quality. It requires but little argument to uphold this statement. Every famous architectural pile in the world testifies to it, and the buildings of modern expositions are additional witnesses.

It is, then, a manifest waste of opportunity to erect monumental buildings so far apart from each other that they cannot be seen together excepting from a balloon.

The fact admitted that buildings should be massed, the conditions influencing such massing are next to be considered.

Primarily they are conditions of utility. Buildings are placed where they will do the most good, where they can be the most conveniently approached, and will hold the most practical relations to each other.

If these conditions are allowed to act, all public buildings are naturally gregarious. There is one other important factor, that of the avoidance, so far as may be, of the disturbance of existing conditions. From these conditions have resulted the Ring Strasse of Vienna, the boulevards of Brussels, Antwerp and Frankfort, and the consequent placing of important buildings upon them.

The demolition of ancient city walls and subsequent filling-in of moats gave room for municipal improvement without demolition, and preserved a tradition while embellishing the city.

The Mediæval city market or meeting-place, whether within or without a citadel, no longer exists as the pulsing heart of a city, for the cities have become of such extent that squares or places must multiply in number. What in the old days was the heart has now become a series of ganglions, or nerve centres, connected by avenues, parks or boulevards. What was formerly a *coup d'œil* has become a series of points of interest which should not have mean approaches The picturesque masses of castles and cathedrals were the more interesting from the contrasting hovels clustering around their feet, but the dignity of modern civic buildings does not accord with such a setting. The city of to-day has grown too large to be picturesque; its avenues are too broad, its spaces too vast, its distances too great. Accident must give place to intention, or the general effect of the city will be haphazard, incongruous and incomplete. The impression of incompleteness is characteristic of American cities for the reason that, with few exceptions, they have either no initial scheme in plan or a meagre one. There is, it is true, the numbered and lettered gridiron plan of Philadelphia and Chicago, which "grinds down their stones to a pale unanimity," in which all streets are alike and one view as good as another, but such planning can hardly be considered an achievement. Washington has a plan of a higher type and greater possibilities, and in spite of the numerous indignities to which it has been submitted, it still gives the city its individual character and much of its undoubted attractiveness.

This plan is based upon centres of interest, not too far apart to be seen from each other, and, therefore, vistas terminate with a monument, sculptural or architectural. This is a very great gain, and exists in only two other cities—Paris and Rome. Nothing is more ignominious than a broad avenue leading to nothing and fading away at either end into the frayed skirts of a city.

The same mind that first conceived a plan where all streets were alike arose to a loftier height of inspiration and introduced final perfection into his plan by assuming that a very broad, perfectly straight avenue of infinite length was the finest possible street for a great city. There can be no greater blunder in planning. What is more wearisome than endless streets of which the destination cannot be foretold? All scale is lost by too long perspective; and unless avenues are viewed from an eminence or are terminated by an important mass of buildings raised high in the air, it is safe to assume that half a mile is quite long enough for any uninterrupted vista. One of the fundamental principles of architectural planning is that of axes, upon which are strung both the voids and solids of the masses of building. A great avenue is a great axis, a great void, but it should not be that alone; it should lead to the greater solid masses at either end. It is important, then, that the chief buildings should be, not upon the sides, but upon the axes of great avenues, and, in fact, in most cases where the buildings have been first established, the axial avenues have later been constructed by demolition. Unfortunately, the reverse process does not as often occur. The avenue once established becomes a public right of way, and there is nothing so repugnant to the Anglo-Saxon mind as to interrupt or interfere with anything which has once become public property. Even bridging a right of way is considered an injustice: it must remain open to the stars themselves. Fortunately, in Washington the necessity for constructing centres of interest on the axes of avenues is not felt. They already exist. The danger seems to be this: that the sides of the existing or to be created avenues are held to be adequate sites for new Government buildings, while in point of fact those buildings should be built upon their axes. Unter den Linden, in Berlin, is in this respect an excellent object-lesson Despite some admirable buildings upon its sides, such as the Russian Embassy and the arsenal, this famous avenue is ineffective until one end is reached, when the Brandenburg Gate, a puerile imitation of the Propylæa, is thrown frankly across its axis and at once dignifies it. At the other end of the Unter den Linden is a marvellous example of purposeless planning. There is prevalent another impression in regard to great avenues, which is this: that a bridge is of greater value and merit than the avenue leading to it, and can be considered as a terminal unit, and that it is of greater importance than the avenue leading to it. As a matter of fact, a bridge is an integral part of the avenue, and counts but little in effect when seen from a point in it.

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* From a paper by Mr. C. Howard Walker, F.A.I.A., read before the thirty-fourth annual convention of the American Institute of Architects.

The architectural merit of a bridge, which may be great, is seen from up or down the stream. Its artistic value as a monument is entirely due to the uniformity and symmetry of its sides, and the contrast of open spaces to high façades, and to the treatment of its approaches. When the bridge is a very long one, any treatment of its centre, far from either bank, is necessarily isolated, and when such treatment is suggested by constructive conditions, as in the case of a drawbridge, it need not be unduly exaggerated. In most cases the merit of a bridge is in its long horizontal reaches, its repetition of spans, and the introduction of perpendicular motives is unnecessary. On the other hand, the ends or approaches of bridges admit of admirable monumental treatment, and absolute symmetrical treatment of these approaches is not essential. One of the most effective bridges in existence is the old bridge at Prague, which is most unsymmetrical in treatment Another is the bridge at Heidelberg. The great towers of the new bridge in London are most picturesque, but the length of the bridge is comparatively short, and the towers are but little isolated from the approaches at the ends. On the other hand, the long bridge at Worms, of a similar conception, is ineffective. The ends of bridges should open into spaces or squares, affording ample opportunity for approach and circulation It is at these points that excellent sites for the erection of monumental buildings occur. An avenue leading to a bridge need not be considered of sufficient importance to warrant the erection of the chief buildings along its sides. There exists also the river frontage. Buildings upon such a frontage are effective under the following conditions :—

1 When the stream is narrow, and they can be seen from the opposite bank.

2. When they are near the ends of bridges and can be seen from the bridges.

3. When the stream curves and the planes of the façades are changing to conform with the curve.

In all cases the embankment should be carefully treated on the stream side. A terrace set back from the river, leaving the bank unkempt and rough, abandoned to the accidents of river traffic, is not successful. The Elbe at Dresden is a case in point. It is well, if possible, to have ample space between the façades of the buildings on the river and the embankment, and to keep all wharves and commerce from the frontage, or confine it to defined and isolated points. The treatment of a river front must be undertaken thoroughly. Half-measures are sure to prove troublesome in the end

In one essential American architecture has been peculiarly deficient—that is, in the monumental treatment of grades. Abrupt changes of grades are not obstacles, but opportunities. We have been abundantly satisfied if our buildings were planted, not set—that is, if the surface were levelled for them and they had no apparent connection with the ground on which they were placed The Capitol is one of the most admirable exceptions to this fault. There is nothing more attractive than walls, steps, terraces, balustrades and buttresses, which are integral parts of most buildings abroad, and which, when the natural grades have not given excuse for their existence, have been deliberately created as necessary setting to the buildings.

In our case in Washington there is every opportunity for this class of work, and it is of infinite variety and advantage It can be made to soften too great austerity of design and to dignify too great license. In many cases the approaches to a simple inexpensive structure exalt it above a pretentious, but undeveloped, neighbour, and in any scheme for the embellishment of a city too much stress cannot be laid on these important accessories to the higher architectural achievements. Much of the beauty of cities of to-day also is due to judicious laws preventing unsightly structures, especially when these structures are erected by the municipalities themselves. For instance, it is a wise precaution that backgrounds to monuments, sculptural or architectural, should be so far as possible agreeable to the eye. There should be, therefore, civic laws which would make it impossible for any large, unsightly building, manufacturing or otherwise, to be erected in proximity to public buildings ; that is, the city should have the power of approval or disapproval of the design for such buildings. At present there is in Dresden a large power-house with a huge yellow chimney being built directly behind the great opera house of which Dresden is so justly proud, and which was Gottfried Semper's best work. The Dresdeners have erected a statue to Semper in the square, but they have permitted this intolerable structure to dwarf everything about it.

In Berlin, the great war monument to Emperor William has for a background a cheap furniture establishment, covered with signs, and a red and yellow brick industrial school. It is proposed to paint out the one and tear down the other, both of which would have been unnecessary if the monument had been well placed. If a monumental avenue is established it would be well to follow the example of Buda-Pesth in relation to its great Andrassy Strasse ; that is, there should be specific laws passed in relation to the façades upon the avenue as to height and character, and the existence of unsightly party walls should be made an impossibility. If possible, the city should have similar control of the corners at the crossing of all great avenues, and of buildings upon the axes of great avenues. A final, apparently minor, detail is of the utmost importance.

Every city should control the designs and location of all flag, gas, electric and trolley poles, of all curbs and drinking-fountains, of all signs beyond a specified size, and of all kiosks. Many beautiful streets and buildings in foreign and our cities are made hideous by signs and kiosks.

These restrictive laws would be specific laws for specific and worthy purposes ; they would be unjust to none, and calculated to appreciate rather than to depreciate real estate. Accident and disorder went far to make the picturesqueness of the ancient city. Its time has passed. Order and restraint are essential to the beauty of the modern city.

Thus far are general considerations applicable to all cities. It is now a question as to their direct application to Washington, in order to make it compare favourably with the great capitals of the world. Let us see what those capitals have done with their opportunities. In most cases they are upon rivers, and have taken advantage of the river banks. In many cases they were walled cities, and when, under modern conditions, these walls were removed, their places have been taken by boulevards encircling the centre of the city. In either and in both cases public buildings have been placed upon the river embankments and upon the boulevards ; in all cases bridges have been made monumental. In addition to this, eminences have always been considered as fitting sites for the most noble buildings In most modern cities in Europe the condition enforced by the already existing remains of the past has made a comprehensive scheme of treatment difficult, and the most that could be done was to make the best of possibilities. Paris and Buda-Pesth are perhaps exceptions ; in both cases nothing has been allowed to interfere with a broad, well-studied scheme. Overcoming obstacles and adapting conditions are very apt to add an additional charm to results, and to produce a more attractive, though less formal, city. The different capitals of Europe have treated their problems as follows :—

London has chosen to make its river embankment and bridges its chief monumental feature, its great secondary feature being its parks. In no case are there fine vistas or impressive avenues in London, if we except perhaps Waterloo Place and the Duke of York's Column. The river-front is its great architectural effort.

Berlin has ignored its river, the Spree, which, while insignificant, could have been made attractive. There has been an effort made at the bridges. The great avenue, the Unter den Linden, is effective when it broadens before the Brandenburg Gate, which is thrown across it. At the other end it spreads into a waste of squares upon which the Opera House, the Palace, the Cathedral and the old Museum are placed with little regard to grouping. As they are, however, all important buildings, they make a very effective showing despite their careless arrangement

Outside the Brandenburg Gate is a long wooded avenue leading through a park to Charlottenburg. At a little distance from the gate, crossing it at right angles, is the new Seiges Allée, or Avenue of Victory, with sixteen exedras on either side, with a marble figure of a Prussian ruler in each, and on either side of the statue busts of his principal subjects. The avenue leads up to the Column of Victory, which is in the midst of a great circular place, on one side of which is the new theatre and on the other the new Reichstag. The scheme of this avenue is fine but it is somewhat disconnected from the city plan.

Dresden.—Here there is an effort to make the river effective. On one side is the new Finance Building, on the other the beginning of the Bruhl Terrace, with the façades of the Arcadneun and the Art Building. The bridges are fine. The commerce of the river has been allowed to remain between the terrace and the stream, and the effect is the effect of incompleteness.

The group of great buildings in the Schloss Platz, the Cathedral, Museum, Opera and Palace, while having little relation to each other, and no consistent scheme of plan, are like those in Berlin, from their importance and the fact that no mean environment appears, most effective.

Madrid.—The river is unconsidered ; the Palace alone is well placed and effective.

Rome.—The river is now being edged with embankments and boulevards which some day will be attractive. The bridges are strong, vigorous and effective.

The magnificent scheme of approach to St. Peter's, one of the greatest architectural *tours de force* in existence, is too well known to need long description. The equally fine Plaza del Popolo, with the Pincio at one end and the new bridge leading to a long avenue and to St. Peter's, is the second great piece of architectural planning in Rome. All avenues in Rome have a terminal group of buildings, and their vistas are extremely fine.

Buda-Pesth is exceptional, inasmuch as it is essentially a modern city, and has been laid out upon a well-devised scheme, especial attention having been paid to the river front and to the bridges, and a great boulevard, the Andrassy Strasse, being carried out to the pleasure parks. Upon the embankment only large and important buildings have been erected, with long façades; in fact, in the entire length of the river front, over a mile in length, there are but twenty-three façades, so that the importance and length of each can be imagined. In addition to this, the embankment is planted with trees, and is devoted to foot passengers only, carriages being stopped at the points where the streets and avenues debouch on the embankment. On the opposite side of the river, in the old town of Buda, rises the Palace, terrace after terrace, finely placed and set.

The Andrassy Strasse has harmonious buildings its entire length, there having been control of the design of the façades by the municipality.

Brussels.—The old Mediæval square is one of the finest in Europe, but it has no connection with the plan of the modern city. There are two sets of boulevards—one around the city, occupying the site of the old walls, the other across the city, where the old canal formerly served for commerce. The other set is too far from the centre to be important. The cross boulevards are about thirty-five years old, and prizes of from 1,000 francs to 4,000 francs were offered for the best designs for façades. Many buildings were built from these designs, and the result is pleasing but not especially monumental. There are few effective terminations and vistas. The far-famed Palais de Justice, one of the largest buildings in the world, and certainly one of the worst architecturally, is well placed on an eminence, but with very poor approaches—bare and crude. The great Rue Royale leading to it has some good façades upon it, but they are juxtaposed to badly-designed mercantile buildings, and there is therefore no effect of *ensemble*, as in Berlin, Dresden, Vienna, Paris or Buda-Pesth. The palace is on a parked square, and is mediocre.

Frankfort.—Another city with interesting ancient central square, now left at one side, new boulevards taking the places of old walls, and in other respects a city of broad avenues with occasional monuments and fountains; not especially interesting.

Florence.—With its fine Mediæval square apart, new boulevards instead of its walls, but without interesting buildings upon them, but with excellent bridges and good embankments on the river Arno

Prague.—Apart from occasional old buildings, its entire interest centres upon its embankment, its fine bridge, and the magnificent situation of the cathedral and Hradchin, or palace, on the heights across the river. The cathedral is not a great one architecturally, and the Hradchin is commonplace to the last degree, but their size and situation make them most impressive. The bridge is very elaborate, with end towers and arches, and heavy buttresses and high groups of statuary on its sides. It is extremely monumental.

Vienna has not made much of the embankments of the Danube, though work to that end is now in progress. On the other hand, its Ring Strasse, a very broad boulevard around the city in place of its former walls, is a very fine performance. All the principal buildings are on this Ring Strasse, and as its direction changes every few thousand feet they are seen at the ends of vistas and at all points of view. They are vast in dimensions, and in most cases fine in design. The famous Prater is a great avenue through a wooded park, and like all others of its class, such as the Avenue du Bois de Boulogne, the Thiergarten Avenue, the avenue at The Hague, the Cascine in Florence, &c.

Paris has taken advantage of every inch of its river-bank, and by the fine scheme of the Champs-Elysées and the gardens of the Tuileries terminating at one end in the Arc de Triomphe and at the other end in the Louvre, and by the series of radial avenues from the Arc de Triomphe and the Avenue de l'Opéra, has created a series of architectural vistas unequalled in other cities. The restrictive laws in regard to buildings and the careful control of designs of monumental work in Paris is greater than elsewhere, and the effect is manifest in the streets of the city.

It is apparent that the most attractive cities are those where some broad and comprehensive plan of treatment has been conceived and adhered to, and where, if poor surroundings or inferior architecture forced itself into prominence, its effect was minimised either by planting-out with trees or by interrupting continuous vistas by a monument or building. Also, that in many cities the most attractive feature is merely a collection of the most important buildings, even if these are not planned in relation to one another. It is not necessary to be enamoured with the idea of magnificent distances. It is not within the capability of human effort to make all things in the range of vision agreeable to the eye. Let us minimise the difficulties and shorten the range of vision. A great city resembles an articulate animal; it is made up of a number of parts jointed to each other. It grows in that way. Each part must, however, be complete in itself, though subordinate to the general scheme.

In every American city, without exception, the effect of the public buildings has been lost by their separation and isolation. This is as true of colleges and institutions as of Government and municipal buildings.

The power of correlation of co-operation is as great in artistic effect as it is in practical action. There is a close relation between æsthetics and mechanics, and they have been too long divorced.

The concentration of the chief buildings of a city in its acropolis or market-place is what has made the architectural grandeur of Athens, Florence, Venice, Buda, Moscow and Paris. Imagine the grouped buildings of these cities separated and isolated in obscure places, and you go far to destroy the wonders of the world. On the other hand, imagine, if you can, the isolated best buildings of New York or Chicago, or of Washington, brought together into one group, and, incongruous as they might be, they would be worth long travel to see. This, however, it is impossible to compass, but it is possible to consider the fact in future building, and it is also possible to unite existing buildings by arcades, colonnades, or even formal avenues of trees with balustrades and sculpture. It is a mistake to consider these of secondary importance. And we should not too much eliminate foliage. Only the great arteries of a city require unobstructed street surface. Elsewhere boulevards and squares are all the better for having grass and trees, and such planting and setting in connection with public buildings is most attractive. There is, as we know, an unusual opportunity to make our capital compare with the other great cities of the world; the will is not wanting, neither do I believe is the ability to secure the wished-for result.

THE POULTRY CROSS, SALISBURY.

THE erection of scaffolding in Silver Street, Salisbury, in front of the Poultry Cross, has aroused considerable curiosity. In recent years this ancient structure has, says the *Wiltshire County Mirror*, shown signs of falling to decay, and antiquaries and people who take an interest in such things have been hoping that an attempt was about to be made to preserve, if not to restore the fabric. It appears, however, that at present only two of the pinnacles, which have become so dilapidated as to be unsafe, are being repaired by Messrs. Milward & Co., of St. John Street, Salisbury; but it is quite possible that more extensive work will be undertaken when the deplorable state of the fabric is reported to the Town Council.

It is many years since the Poultry Cross was restored, and it was then in a very neglected condition. In 1834 the Rev. Peter Hall, late curate of St. Edmund's Church, who wrote a history of "The Picturesque Memorials of Salisbury," said he regretted that the plan which he ventured to suggest twelve months before that time for the restoration of the Cross was not so fortunate as to excite attention. He, however, hoped that some person of more influence than himself would suggest a better plan and wipe away the reproach incurred by the city at large in the condition of the fabric. "The Poultry Cross," he went on to say, "has materially suffered from lapse of time and alternations of the weather; its niches and pinnacles are curtailed to less than half their fair proportions, and the canopy and cross are supplanted by a ball and sun-dial." Nothing was done until 1853, when the walls round the Poultry Cross were removed, and it was determined that it should be restored according to Owen Carter's design, at a cost of about 300*l.* to be raised by subscriptions. The work of restoration was very carefully carried out by Mr. Osmond, sculptor, of St. John Street, Salisbury, whose business is now carried on by Messrs. Milward & Co., with the late Mr. Osmond's son as manager.

Since the sculptors, Messrs. Milward & Co., have removed the two pinnacles which had become unsafe, the city surveyor, Mr. A. C. Bothams, has made a thorough examination of the structure, and has formed the opinion that unless the fabric is thoroughly restored the most beautiful part of it will speedily fall into decay. It appears that the carved pinnacles round the Cross are fastened together with iron dowels, and the action of the weather upon the iron has caused it to rust. The rusting of the iron is said to have the same effect upon the stone as frozen water has upon pipes, and the result is that most of the pinnacles have cracked. When the Cross was erected, sculptors and masons, however clever at their work, were probably not aware of the effect iron, in the course of time, would have upon the stone, or they would never have used that metal in the construction of such a beautifully executed monument. Sculptors now use copper dowels, and if the Cross is restored there is no doubt the city surveyor will recommend that all the pinnacles should be secured with dowels made of this metal.

The life of the pinnacles as they now stand is very short and the Cross without these beautiful adornments would be shorn of all its beauty. Originally there was a number of smaller pinnacles round the Cross, but all these have disappeared, and it would be a very difficult matter to replace them. Many of the stones in the lower portion of the fabric are also falling to decay and ought to be replaced.

LANDSCAPE IN CONNECTION WITH PUBLIC BUILDINGS.*

In its widest sense, "landscape" is the appearance of what one sees in looking abroad upon the land, a meaning modified in application by certain restrictions, as that the point of view shall be normal and that the view shall have some degree of extent. Clearly, public buildings, when not placed cheek by jowl along a confined city street, may well be considered in relation to landscape in this broad sense, for they may form important features in such a landscape; and unless those who are interested in the buildings wear mental blinkers that permit them to see nothing else, they are likely to be much concerned with other elements of the landscape at the same time.

The value of considerable space about important buildings, regardless of how the space may be treated, is often underestimated, not only by laymen but by architects. Accustomed to build under the conditions prescribed in populous cities, they sometimes become blunted to the need of room. Against the agreeable effect of the liberal spacing of buildings must always be weighed the advantages in point of convenience of a compact plan, but under ordinary conditions compactness has altogether undue weight, because its value can more readily and positively be reduced to dollars and cents. Where land comes to have a considerable value per square foot, every foot not devoted to building offers a direct positive protest against the sacrifice of area, whereas the increased value, due to the more agreeable and attractive character of a liberally spaced plan, is only indirectly connected with its real cause, and is not infrequently attributed to others. I speak of the commercial value of liberal spacing, because its very obscurity has led to its being ignored in practice, and people have thus become accustomed to doing without it. The result has come about in just the same way that people in many parts of this country, habituated to the wooden dwellings originally prescribed by reasons of economy, have acquired a prejudice against brick and stone.

It is a commonplace to say that in our cities architectural effect is concentrated upon façades that can never be seen to the best advantage on account of the narrowness of the streets. In Washington the street plan is so much more liberal than in most of our cities that houses of ordinary dimensions really have a chance, and this is one of the reasons why it is a pleasanter dwelling-place than most other cities in the country. Another illustration of this same thing is in the pleasing effect of certain curving streets of less width, which present the more distant buildings at a far more agreeable angle than is possible with the raking perspective of a straight and narrow way. The curving High Street of Oxford, famous for its beauty, owes a great deal of its charm to this quality, a quality to be obtained only at the sacrifice of the dignity and impressiveness of a long perspective, and emphasising more the effect of individual structures than that of the street as a whole.

The value of space about buildings lies not merely in securing good view-points for the façades, an end that could be met, and has been largely met in Washington, by providing broad streets and wide set-backs, but also in giving comfortable space between buildings. Here again we are so accustomed to structures of discordant styles sandwiched along our streets, and putting each other out of countenance, that we are hardened to the evil, and it is only when we see several adjacent edifices harmonising agreeably that we are struck by the unwonted pleasure. I am no advocate of a monotonous uniformity in treatment for the sake of avoiding these discords, but if a reasonable distance is left between buildings there is plenty of scope for the development of individual character before reaching such divergence of styles as will clash across the space. It has never been possible in the past to maintain in our Government buildings a strict adherence to any one style, and it is difficult to believe that human nature will be so altered in the committees and architects of the future as to prevent occasional departures at the call of whim or fashion from any programme that may now be laid down. If these variations are not to be offensive in aspect, it is of the utmost importance that liberal space should be assigned to the buildings, and if these are to have any mutual relations and to support a general effect, the space should be treated as a space with foliage arranged to carry the eye pleasantly and restfully from one structure to the next. Moreover, as buildings grow in size and importance, in like measure increases the need of room about them in order to maintain a consistent and dignified effect.

Perhaps I have been emphasising points that would be accepted by almost everybody at least in theory, but when it comes to the treatment of the land about great public buildings there is certainly much divergence in ideas. Not a little rather acrimonious discussion has taken place upon the value of informal and formal treatment in this, as in other connections, much of which has fallen wide of the mark through a failure to determine and keep clearly in view the fundamental purposes to be served in each instance. The primary purpose in this case is to provide convenient and agreeable means for the transaction of public business, and the incidental purpose is to give pleasure to wayfarers not engaged in such transaction. The business is done almost wholly in the buildings, and they are clearly of primary importance and should dominate the design as a whole. Great public edifices must be strongly formal, whether they are perfectly symmetrical or not, and this formal quality ought to be recognised in the plan of their surroundings if the total effect is to be consistent. But assuming the adoption of formal design, there are certain limitations upon its application. There is an upper limit in point of scale and extent beyond which symmetry is simply wasted. When the area treated becomes so large or so complicated that the symmetry is unrecognisable it is folly to strain after it. There is a marked symmetry in many large parts of the plan of the city of Washington, as, for instance, about the axis of the White House along Sixteenth Street, but Thomas Circle on the right is not repeated at the corresponding point on the left. Yet it is doubtful if anyone in examining the ground would even perceive how far the symmetry is actually carried, much less observe this imperfection. On a much smaller scale at Lafayette Square the treatment with trees and shrubs is so complicated and intricate, and the only point of view so near the level of the ground, that the symmetry of the plan is hardly perceptible. It may give some mental satisfaction to those who discover it, but that has nothing to do with the beauty of the design. In such cases symmetry may do no harm, but it does no good, and it may at any time lead to needless expense or to monotony of ineffective repetition.

On the other hand, symmetry and definiteness of geometrical form may be carried into extreme detail with very unfortunate effect. It is impossible to find a complete illustration in actual fact, but suppose that in a strong formal design of good general plan not only is each path, step, tree, bush and bed repeated in perfect symmetry of outline, but each detail is so repeated and has a similarly precise outline; and suppose, because branches and twigs cannot be induced to grow in one precise pattern, and flowers to put forth only at predetermined points on each herb, that all the twigs are at least cut off at predetermined points and only such herbs are used as will retain their form unchanged instead of flowering promiscuously on unforeseen sprays; in such a case there will be, to say the least, great danger of hardness, monotony and wearisomeness. Of course, the precise point of detail beyond which an agreeable formality would pass into hardness and monotony is partly a question of personal judgment, but it is by no means wholly a question of personal judgment; it is a question of scale, on which I believe there would be as to any completed work a surprisingly small difference of opinion between men who have thought carefully upon such subjects. Where the scale of the general scheme is large there should be a corresponding simplicity, and the formality need not be, and should not be pushed so far into detail as in the case of smaller projects. Consistently bearing in mind the scale of the design is perhaps the most important, and, if we may judge from results, the most difficult requirement to follow in planning the grouping of public buildings and the treatment of their grounds.

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* From a paper read before the American Institute of Architects by Mr. Frederick Law Olmsted, jun.

A Memorial Window to the late Very Rev. Francis Swift, D.D., dean of Clonmacnoise, has been erected in All Saints Church, Mullingar. The subject is the Ascension. The window has been executed by Messrs. Heaton, Butler & Bayne. The stonework was executed by Messrs. Sharp & Emery, Great Brunswick Street, Dublin, from plans furnished by the diocesan architect, Mr. J. F. Fuller.

The Tribute sent to Windsor for the Queen's funeral from the Royal College of Art, South Kensington, consisted of a silvered female figure, draped and in an attitude of mourning, seen against a background of deep purple violets formed in the shape of a Victoria Cross. The whole design, nearly 5 feet high, is surrounded by a wreath of cycas palms tied with a broad black ribbon, to which is attached a richly illuminated parchment inscription bearing the words:—"Victoria, Memoria in Eterna, from the Royal College of Art." On the pedestal the inscription is:—"Pertransiit benefaciendo," and, on the central circle of the cross:—"Mater Patriae: Victoria: Reg.: Imp.: Requiescat in Pace."

NOTES AND COMMENTS.

It is to be hoped that the reconstruction of the Glasgow Royal Infirmary will not be allowed to end in a fiasco. The protest from the local Institute of Architects which we published last week is evidence that the executive committee have not abided by the conditions which were formulated for competitors. That course is enough to excite prejudice against the design selected by the committee. The managers of the infirmary, on learning what was proposed to be carried out, have formally stated that if the executive committee should decide to approve of the course of procedure suggested by the architect, with or without modifications, the management would acquiesce, but the work must be carried out on the understanding that no financial responsibility, either now or at any future time, would rest on the infirmary in connection with the reconstruction, and that if and when the existing funds, with any additional subscriptions which might be received, were exhausted, the duty would rest upon the executive committee to take such steps as they considered necessary to raise the money required for the completion of the undertaking. When the project was originally started it was proposed to reconstruct only the older portion of the infirmary as a Jubilee memorial. The sum of 100,000*l.* which was required has been subscribed. But it is now declared that not one brick or stone shall be laid until the managers have amended their proposition. In other words there are rival schemes, and it remains to be seen which will succeed. It is proposed in the first instance that the executive committee should issue a statement of the case from their point of view, and that an interview should take place between representatives of the executive committee and the managers of the infirmary.

In many towns the borough engineers have charge of architectural work as well as of engineering construction. In cases where there are extensions and improvements the result is rarely satisfactory. In Manchester, after a careful investigation of the subject, it has been concluded that it is desirable for the architectural work to be absolutely separated from the city surveyor's department. When it is remembered that Mr. De Courcy Meade, apart from architectural work, has charge of sewers, paving, streets, dangerous buildings, rivers and bridges, preparation of plans for parliamentary purposes and the examination of all plans submitted by railway companies and other authorities, it must be acknowledged that he has enough to engross one man's attention. It is therefore proposed that the town hall committee should report about the best means of effectually providing for a new department which shall have the control of the architectural work of the Corporation and the entire management of the architectural surveyor's work, which would involve the taking of quantities and making final measurements in regard to architectural works, the examination of all plans for buildings, examinations as to their conformity to the building regulations, and other matters closely allied to this work.

A great many of the inhabitants of London were opposed to the scheme for the purchase of the property of the various metropolitan water companies, but the amended regulations which the companies now wish to impose will have the effect of changing opponents into advocates. The more inquisitorial system adopted of late by inspectors of water companies, and which suggested that water was of higher financial value than wine, made it apparent that novel stringent regulations were about to be formulated. The waste of water should be prevented, but when it is found that in a house valued at 45*l.* it will be necessary to expend 53*l.* before a water company can be satisfied the proposal is preposterous. In many cases the cost of fittings will be double that which now prevails. The object of such extraordinary expenditure must be a desire to persuade arbitrators into the belief that the value of the companies' property is much larger than it has been calculated. To compel the people of London to expend over 100,000*l.* for that purpose, and without the least benefit to themselves, indicates the selfish spirit which animates the companies, and which hitherto has caused much inconvenience. They have been ill-advised in their latest attempt, which must, whether approved or not by the Local Government Board, delay the progress of building.

The officials of the new Department for Agricultural and Technical Instruction in Ireland are making arrangements for the adequate representation of Irish minerals and building stones at the Glasgow Exhibition. Up to the present, however, there appears to be indifference to the subject among those who would be likely to gain if the Exhibition were a success. The mineral resources of Ireland are extensive and valuable. But although during the past fifty years much has been said and written on the subject, the wealth of the country is too generally unknown. In addition to coal and minerals the Department will receive offers of specimens of gypsum, marbles, granite, limestone, soapstone, bathstone, hones and grindstones, flags, slates, bricks, tiles, pottery clay, moulding sand, fireclay, &c. Intending exhibitors are requested to adhere to the following regulations :—The analysis of mixture to be arranged for by the proprietor of the deposit. Each specimen of polished marble and granite must be of uniform size, *i.e.* 3 feet high, 2 feet wide, and not more than 1½ inches thick, and, where possible, shown in rough and finished state. Blocks of building stones to be about 1 foot cube, trimmed on one side. Bricks and slates to be of standard size. In all cases the following information must be attached :—Price free board, nearest railway station, nearest seaport, estimated extent of quarry or mine, possible output per week. The opportunity should not be neglected by Irishmen, for many of the orders which now find their way to the Continent could easily be sent to Ireland. But it will be necessary to convince architects and contractors that delays in sending goods will not arise, and that conditions in contracts will be scrupulously carried out.

A project is under consideration in Edinburgh which, if realised, will enable students of engineering to utilise the advantages offered by the Heriot-Watt College, as well as the University of Edinburgh. The workshop teaching would be obtained in the Heriot-Watt College, while the theory of engineering and mathematics would be taught in the University classes, and it may be partly in the college. The arrangements about the fees will be subsequently announced. Everything will be done to make the curriculum in engineering thoroughly practical and worthy of the reputation already acquired by the two institutions. In order to secure success it is proposed to form a committee of advice, consisting in the first instance of the Dean of the Faculty of Science and the professors of engineering, mathematics and chemistry in the University, with the principal and the professors of mechanical engineering, electrical engineering and chemistry in the Heriot-Watt College, the University Dean to be chairman.

The Board of Education have issued a return which, among other information, shows the occupations of parents of winners of County Council scholarships throughout England during the past three years. It is satisfactory to find that the building trades are well represented. For example, out of 4,678 junior scholarships they have won 477, or fully 10 per cent. In London, out of 1,797, 231 were secured. The returns of intermediate scholarships are nearly as pleasing, for out of 519 as many as 42 are to be credited to the building trades. The results are only excelled by the two divisions described as "clerks, agents and warehousemen" and "professional and general." Out of the 477 junior scholarships carpenters and joiners are credited with 200, and with 20 of the 42 intermediate scholarships. Painters and decorators come next with 58 juniors and 5 intermediates. Next are builders, with 46 juniors and 8 intermediates, and plumbers and gasfitters with 41 juniors and 2 intermediates. The junior scholarships are generally for the purpose of enabling students of elementary schools to proceed to a secondary school. The intermediate scholarships tenable at secondary schools or technical colleges are usually in continuation of secondary scholarships.

ILLUSTRATIONS.

PANEL IN GLASGOW MUNICIPAL BUILDINGS.

CATHEDRAL SERIES.—YORK MINSTER: THE NAVE, TO ORGAN SCREEN.

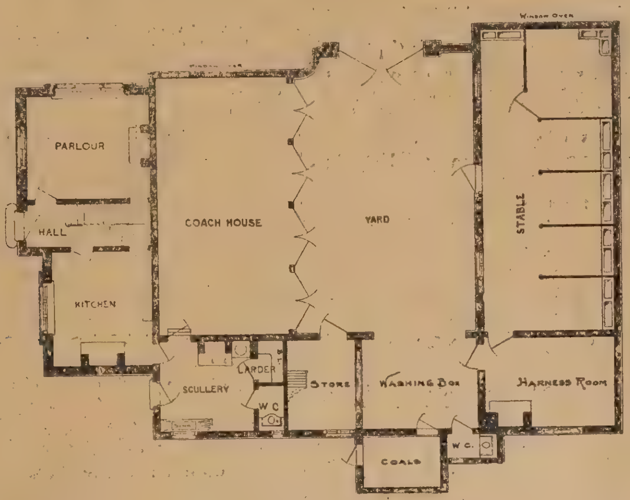
THE CROFT, TOTTERIDGE: THE ENTRANCE.

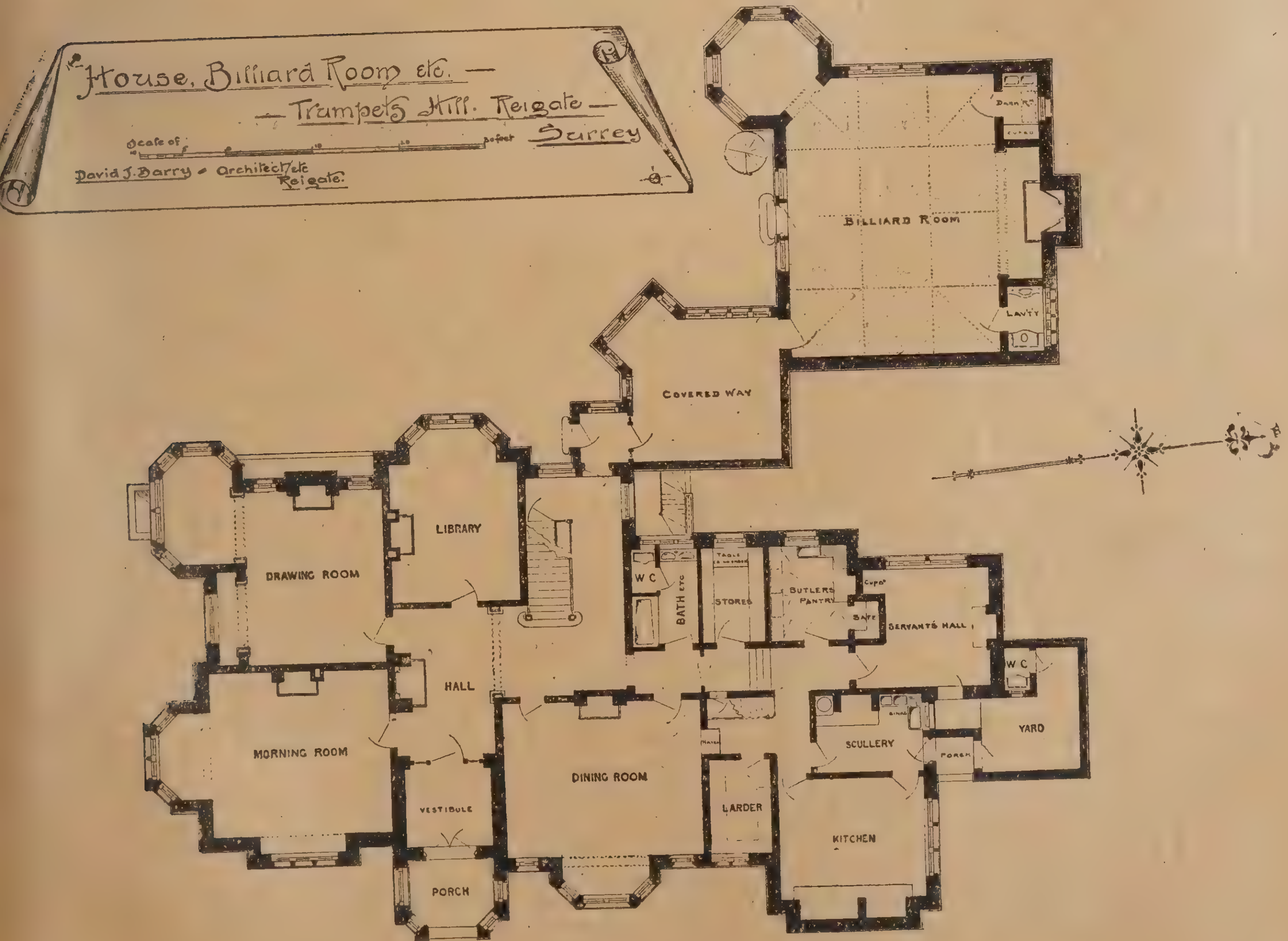
MANSION, TRUMPET'S HILL, REIGATE, SURREY: EAST VIEW. SOUTH-WEST VIEW. SOUTH-WEST VIEW, SHOWING BILLIARD-ROOM. STABLES AND LODGE.

THE building stands on an eminence, and commands a charming view of the surrounding country. The superstructure consists of G. JENNINGS'S pressed buff facings, string-course, and above that hanging tiles of a green shade specially prepared by Messrs. J. K. COOPER & SON. The whole of the stone dressings, plinth, strings, cornice to eaves and architraves around all windows, labels, cills and porch, &c., have been supplied by the Patent Victoria Stone Company, of Hamilton House, Bishopsgate Street Without, and match in colour yellow Mansfield stone. The effect thus produced forms a very pleasing elevation.

The stone dressings equal in effect the stone above mentioned, and in addition the mouldings come out beautifully sharp and true to detail in every respect. The stone is also as easy to carve as the natural stone. The principal rooms and hall have polished oak floors and oak and walnut dados, with fibrous plaster ceilings neatly panelled. The staircase and hall ceiling is of oak.

The whole of the plumbing has been carried out by Messrs. G. JENNINGS, and the heating by Mr. R. P. BEATTIE, of Victoria Street, S.W. The whole has been carried out from plans, &c., prepared by and under the supervision of Mr. DAVID J. BARRY, architect and surveyor, High Street, Reigate, Surrey.





THE ART OF DESIGNING SMALL HOUSES AND COTTAGES.*

THE relationship of an expert to his client must always be rather a complex one. He is called upon to render a service to his employer, but it is he who must determine the way in which it shall be rendered. He is free to obey his employer's directions only so long as these accord with his own principles, or at any rate do not clash with them in anything that he holds vital; but in a large measure he must direct his employer, not be directed by him: his own reputation is at stake in every transaction. Not only is the relation a complex one, but if it is to be successful it should frequently be an intimate one. The doctor called in to set a broken bone, or the lawyer to transfer a property, need know little of their employer. But were the one required to treat a complicated malady or the other to draw up a will, a personal knowledge of the employer and his affairs would be of the utmost value. In like manner the architect who is to design a shop or a warehouse need know only the business requirements of his client, but the one who is to plan him a house cannot very well know too much about his family life and his personality. If one could always spend a week-end in the old house of a client before designing him a new one, it would be a good thing.

Certainly it is in the domestic branch of our work that our relations are most complex. Each commission is a fresh problem full of human interest, the right solution of which demands that it shall be considered from many aspects. We must look upon the task primarily as the providing of a suitable setting for the life of our client and his family. In this connection not only his actual wants, but his ideals of life have to be taken thought of, as also his financial position. Nor must we overlook our possible influence upon him through his house.

Again, each house appeals to us as a new creation of our art. Here we are in much the same position as the portrait-painter. The likeness truly is that of the sitter, but the interpretation of it, the setting, and the colour—in short, the art of the picture—belong to the painter. So, too, the house as a habitation belongs to and must satisfy the client, while as a work of art it belongs to and must satisfy its designer. In this matter we stand as guardians alike of our reputation and of the general interest of the public as beholders of the building. The right of the public to consideration is much clearer than many seem to realise; the building is forced on them; they have no option but to see it. Much of the joy of life comes from the beauty of the place we live in, as much of the gloom comes from its ugliness. No one who might add to the joy by building something comely has any right to add to the gloom by building what is ill-looking.

I do not anticipate that these considerations, or those which we shall come to presently, are new to you. But it is probable that each would arrange them in a different order of relative importance, so that in no two of us is our attitude towards the problem exactly alike. In no house can every advantage be obtained. Each must be somewhat of a compromise. In each there must be a sacrificing of what we deem the less important to secure what we esteem of greater value. It follows that the variety of our attitude must produce individuality in the results. When therefore you did me the honour to suggest that I should bring this subject before you I felt that the best response I could make would be to try and give you, as from one fellow-workman to another, some account of the way in which we approach this particular piece of work, hoping that in comparing this and the results which we shall show with other methods and results you might find some little interest.

Suppose then that we have received a commission for a dwelling-house, that we have made ourselves sufficiently acquainted with our new client's wishes, his mode of life and habits, by getting him to write us very fully of everything he would like to be specially considered, discussing points with him, or visiting his home, as circumstances may suggest; and further, that we have made full notes of all the instructions and information thus gathered for our own use; the first thing is to visit the site and devote some time to thinking out the problem on the spot. The site is the most important factor to be considered, for it usually suggests both the internal arrangement and the external treatment.

If the site is a large one the position of the house upon it must first be determined. In past times the house was regarded mainly as a shelter, and this greatly influenced the choice of its position. There is no doubt that to the weakening of the influence of considerations of shelter in the choice of sites we owe much of that lack of fitness to its position which is so common a characteristic of the modern building. But we do not to-day build so much shelters for people who live outside as dwellings for people from whence they may occasionally go out. A primary consideration then must be to so place the house as to afford its occupants the greatest possible enjoyment of such beauty of adjacent country or grandeur of distant view as the site can command. While doing this, however, we must so place and design the house that it shall not stand out as a disturbing excrescence, but shall look at home in its place, in harmony with its surroundings.

This consideration of the house as a detail in a larger picture will bring us to a determination of its general form, its treatment and its colouring. Some positions demand a lofty building to crown or complete a spur of rising ground, for example, while others seem to suggest that it be kept as low as possible, as when it nestles under some protecting hillside. And in the country, at any rate, the low house is usually more successful, more in harmony with the scenery, perhaps because it is suggestive more of man's dependence upon nature, less of his defiance of her powers. Some natural terrace may suggest a long house, with all its rooms facing one way, or a ridge may indicate a double-faced house commanding the outlook down over each slope, or perhaps a steep hillside will ask for a house following its lines and clinging to it storey by storey, while a gentle slope will demand a general grouping of the roofs to give a sense of stability by contradicting it.

In the choice of materials and colouring, harmony rather than strong contrast should be sought. There is only one sure way of obtaining this at all generally, which is of course to keep to local materials and local ways of using them. At any rate, I think we may lay it down that strong reasons of use or economy are needed to justify a departure from these. Where a departure is made let the contrast with what is usual in the district be as slight as may be. We do not enough consider when we introduce for the first time into some valley a bright red roof, how it will haunt the eye from every point of view, and may go far towards marring the beauty of the whole scene by destroying its restfulness. At any rate we should let the surroundings which are to constitute the picture suggest the colouring of the new object we are about to introduce just as much as its form. In some places a low-toned colour scheme, as stone walls and grey stone or slate roof, seems most fitting, in others the warmth and brightness of bricks and tiles; some invite the homeliness of whitewash, while others suggest the deep colouring of green or purple slate. Whatever it is some definite colour scheme should be adopted, and colours of paint and any enrichments made to contribute to it.

Greatly as must the site influence the external treatment of the house, its internal arrangement will be even more definitely dictated by it. The position of each room in relation to the points of the compass and the outlook should be determined on the spot. It is now pretty generally realised that no sacrifice is too great which is necessary to enable us to bring plenty of sunshine into all the main living rooms. In the South of England perhaps some moderation must be observed in applying this rule, there being no inconsiderable number of days on which a too sunny room may become unbearably hot, and, where the size of the house will allow of it, to have an east and west room is often a great boon. But over the greater part of our country, certainly in the Midlands and the North, the importance of arranging for the few days when the sun is oppressive is small indeed compared with that of planning to suit the many days when every hour of sunshine is of the utmost value. The general rule then would seem to be to so contrive as to get the sunshine into a room at the time when it is likely to be most occupied. Let a study or breakfast-room be east or south-east, a general living-room or drawing-room south and south-west. A good western window in the room we most occupy in the latter part of the day gives us many an extra hour of daylight, while the opportunity it affords us of habitually seeing the bright colour of sunset is a privilege which is worth some effort to obtain. A kitchen is best north-east or east, for the first coming down into the fireless house may well have its cheerlessness reduced for the servants by what sunshine is to be had at an early hour; later in the day, when the kitchen is hot with cooking, the heat of the sun should not be added. A bathroom and bedrooms too are pleasant with an eastern aspect, though some cannot sleep in a room into which early sunshine can come.

Next only in importance to such considerations of aspect, and certainly important enough to modify them somewhat, is the question of prospect. For a pleasant outlook is a boon only less great than a sunny aspect. We must not ignore a fine view even when it can only be had to the north, and much less must we allow any trivial conventions, like the old commonly accepted idea that the front of the house should be to the road, to betray us into sacrificing such solid advantages as sunshine and a pleasant view. In fact, to produce a good plan one should go to the site without any preconceived conventions, but with a quite open mind, prepared to think out each fresh problem on the spot from the beginning, and to receive all the suggestions the site can offer. I hope you will pardon me if I seem to insist unduly on the importance of so elementary a principle as that of building to suit each site.

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* A paper by Barry Parker and Raymond Unwin, read before the Society of Architects on Thursday, February 7, by Mr. Raymond Unwin.

But one sees the principle so commonly disregarded that it is needful to emphasise it. Not only do we find houses perched uncomfortably on the shoulder of a hill, or thrust into prominence one way or another regardless of their effect on their surroundings, but in arrangement the disregard of the site is carried so far that semi-detached houses are even built with their plans just reversed, so that a plan designed for the north end is made to serve for the south, or one arranged to suit the east side allowed to pass for the west.

Before leaving the site one should be able to carry away not only detailed notes of drainage, water-supply, levels, fine trees, views and aspects, but also a general idea as to the best arrangement of the rooms of the new house, an ideal plan to be aimed at, and a sort of mental sketch in block of the general form the new creation should take externally.

It would be only tedious to you if I were to go through all the details of a house, trying to deal with them in a general way. I will therefore now take one or two definite examples and explain how and why we worked them out as we did, trusting that the interest which attaches to any actual problem solved may come to my aid and redeem the details from tediousness

We have chosen for the first example a country house designed for a site in North Staffordshire, partly because the site was not one to very obviously suggest or very imperatively demand a special treatment. The plot of land consists of a small field, long and rather narrow; it is much the shape of a suburban building plot, though situated right in the country. The main road runs along the north-east end, and the ground rises on the far side of this road, cutting off all view in that direction. An accommodation road or lane forms the boundary on the north-west side, while the south-east side, as also the south-west end, adjoins agricultural land belonging to a large estate. The ground slopes from the road towards the south-west; the slope being very slight at the top end, and increasing somewhat towards the bottom, suggests a level terrace on which to place the house. The land continues to fall away to a stream which runs in the bottom of a wide and not very deep valley; across this there is a very pleasant view, which becomes more interesting down the valley, and is finest to the south of the plot.

The client required the house to have a good comfortable living room for the general family life; another good room for entertaining guests and callers; a small den for his own use, with desk, safe, sample cupboards and gun-rack; four bedrooms, one to be a bed-sitting-room for an only son; a kitchen with the usual offices; outside there were to be wash-house, stables, coach-house, &c. The house was to be arranged to give as much open-air life within as possible.

As the site is exposed to the prevailing winds, and the best prospect is in the direction from whence they blow, some form of court on to which the rooms might open suggests itself as a means of obtaining the needful shelter. The stable yard not being very suitable for the purpose, the house is grouped round a very small central court, round which a corridor is planned fitted with sliding windows, so that it can be converted at will into a sort of small open-air cloister by sliding the sashes down below the sill. This is roofed over at as low a level as possible to avoid anything of the feeling of a well, which a court as small as this needs must be might soon produce. The main roof also is made to slope away from the court in all directions, so that a good deal of sunlight may find its way in. On to this corridor the main rooms open with wide double doors, and the court being protected against wind on all sides it is possible in any weather, except when extremely cold, to have the living rooms open to the fresh air to a quite unusual extent. The kitchen, butler's pantry, front and side entrances and stairs all communicate with the corridor, but so as not to destroy the privacy of the living rooms by obliging anyone to pass the doors when going from one to the other. Pleasing vistas are obtained from the rooms across the court, and from the corridor into the rooms, such as it is not often possible to contrive in so small a house. Provision is made in one corner for a ventilating stove to prevent excessive cold draughts in winter.

The living room, as the most generally occupied, and therefore most important room, is placed at the south corner, having the double outlook to south-east and south-west, and getting all available sunlight and the best of the prospect. It is not enough to give a room windows in the right direction, however; the room must be so arranged that it shall, so to speak, turn its face right, and the windows be so placed that they shall be naturally seen out of from the most usually occupied parts of the room. For this reason an angle window commanding the pick of the view is thrown out on the south-east side. This brings the sun well into the room, and at the same time provides a good, well-lighted position for the piano, from whence anyone can easily face to the whole room while singing. For a similar reason the fire is put on the north-east wall, and, that a thorough sense of cosiness may always be obtainable, it is placed in a deep recess or ingle.

Now an ingle affords a very good instance of how easy it is to misuse the old examples which we study, and that in two directions. For while some neglect altogether the suggestions which they offer, others copy the old forms without troubling to understand them. To make use of old features legitimately, of course, one must first understand the reasons which called them into being; the difficulties which they were designed to meet; and when similar reasons or difficulties present themselves to us we may then avail ourselves of the solution which they indicate, not copying slavishly the details, but taking the principle and working it out to suit our own particular circumstances. The ingle of course had two main uses. The first was to protect a wide open fire from the cross draughts arising from bad fitting or open doors, shutters and windows; the second was to afford seats near the fire, sheltered from the draughts, where the aged and feeble could rest or anyone could keep warm in cold or rough weather. Incidentally, no doubt, our forefathers appreciated the value of contrast, the charm of the ruddy firelight space glowing red in the grey ill-lighted building, and the cosiness of the sheltered low recess in the wide and lofty hall. To obtain this charm, as is often done, by forming an ingle so small that one cannot sit in it comfortably, is merely to remove the fire further from the room; while on the other hand, to arrange a large ingle, as is also sometimes done, with a modern tiled register stove set in a chimney-breast, is to lose the feeling of "sitting on the hearth," and the charm that springs from the fire being able to cast its glow all over the recess and to be seen from every part where one can sit. To adapt the ingle to rooms of moderate size, then, and justify the space it occupies, it must be large enough to be comfortably sat in regularly; a place where one can live, not merely go to be roasted. The fire must be so designed as to have something of the feeling of the old fire on the hearth, and must not be cut off from the recess or in any way allowed to grow into a fireplace within a fireplace. It is generally well to make the whole recess into the hearth, and we often arrange for the fire to burn in a suitably shaped firebrick hollow, which answers all purposes excellently. Fenders are best avoided, and anything like a loose coal-box is a disadvantage. A coal-box can generally be contrived in the thickness of the wall. The ingle must of course be protected from cross draughts, otherwise the fire cannot be sufficiently exposed. When properly arranged and fitted with comfortable low seats, the ingle always proves to be a favourite part of the room; the place where people naturally go to sit and rest.

But I am digressing from the plan, and must return to the living room which we are designing. There the ingle is of somewhat special construction, having several small windows to afford peeps out towards the court and the view, and to give light conveniently placed for anyone reading; and also having cupboards for the display of the client's collection of oriental pottery which is being utilised, somewhat by way of decoration, where the changing lights falling on its bright colourings will give some additional variety to its beauty. The ingle is made deep enough for the seats to serve for sofas.

As meals will be taken in this living room, a small daïs for the purpose is provided in full view of the fire, and, by the client's wish, the recess for this is made a window recess in the form of a large sunny bay, having fixed seats on three sides of the table. This bay give us another window facing directly to the best view, as well as one to the west, which brings the evening light into the room, while the recess is a great advantage, as it prevents the room being blocked up with the meal table.

Between the angle window where the piano stands and the ingle seat is fixed a cabinet, arranged with cupboards, drawers and shelves, to hold music, ladies' work materials, books and the other oddments that are wanted in the room. Near the door a slight recess is formed for a sideboard, and this end of the room is lighted by a window close by which opens on to the balcony. In all rooms there is a part by the door where no one willingly sits because of a certain lack of comfort; it is well to keep such part of the room as small as possible. Very often a room may be actually improved by being reduced in width just where the door opens, while the space cut off may be put to much more valuable use. In this case the sheltered south-west balcony, which is obtained by narrowing the two rooms opposite the doors, adds greatly to the amount of open-air life it is possible to enjoy, and makes it easy to have the pleasure of frequently taking meals in the open; the little window by the sideboard is convenient to hand things through for this purpose. A recessed balcony is, in our climate, much more useful than any projecting verandah. It is possible, owing to the extra shelter, to sit in such a balcony two or three times as often as in the verandah with open ends.

In this room all the important furniture forms part of the scheme; it is thought out and designed with the building. In the treatment of the room advantage is taken of the beams and lintels required for the recesses, and where these are lacking a deep picture rail carrying line with them is adopted, under which the sideboard, cabinet and windows are arranged to finish, leaving an unbroken frieze above, and giving a sense of order and unity to the whole. This frieze is decorated with a painted suggestion of landscape, but in simpler treatment if whitewashed, or tinted with the ceiling, would be light and satisfactory. The lower portion of the walls under the decorated frieze is finished in plaster tinted to the required shade by mixing colouring matter with the skimming coat; this forms a good, plain, solid-looking background for either pictures, furniture or the people who inhabit the room.

Where economy is any consideration rooms may be kept as low as possible, giving additional space outwards, which is as valuable as space upwards for an air reservoir, and for all other purposes so much more valuable. This house is 9 feet floor to floor.

The hall or entertaining-room being intended for less constant as well as more formal use, takes a somewhat simpler form. Placed at the west corner with windows south-west and north-west, it gets all the sunshine during the afternoon and evening, when it is most occupied. It is placed so as to be immediately accessible from the entrance, and opens on to the balcony with folding doors and window. The fire is placed in an ingle contrived under the stairs and half landing, an arch being used in this case to carry the chimney-stack and form the recess. The flue from the fire is brought over on to the arch by means of a copper hood. A little bay partly in the porch lights this ingle. The porch is also arranged under the stair landing, with a seat for a messenger under the stairs. A coal-box and shoe cupboard complete the utilisation of the space under the stairs, which is thus not only made to add to the convenience, but also to contribute something to the interest of both the room and the porch.

Adjacent to the entrance is the small sanctum. Here, again, something is taken off the square room, which, while improving it rather than otherwise by giving a recess for desk and pigeon holes, enables us to have a small vestible with cupboard for visitors' hats and cloaks. Sample cupboards and safe occupy the south-east wall, while a comfortable corner between fire and window is left clear for easy chair and reading stand

Handy to the entrance and to this room is the main coat cupboard and the lavatory, from which a side door leads to the stable yard, while the butler's pantry completes this north-east side of the little court. Beyond this and behind the living room, having its fireplace at the back of the living-room fireplace, is placed the kitchen. It occupies the east corner of the house, and has its main window to the north-east, the right aspect for a kitchen. There is a small window to the south-east, to light the range and make a comfortable place for sewing or reading. One corner between fire and window should always be kept free from doors in a kitchen, so that there may be a place to sit in, and it makes a more comfortable kitchen still where it is possible to collect the doors on one side only. Here an archway, closed by a heavy curtain when work is done, leads to the scullery, cellar, larder and back door. A working dresser under the main window, fitted with drawers and flour-bin, a cupboard and plate-rack slightly recessed on the south-east wall, and cupboards each side the fireplace constitute the chief fittings, and in the scullery there is a special cupboard, with slate shelves for saucepans.

The larder has its window in the back porch, to get a north aspect, while thorough ventilation is secured by an opening on the south-east up under the eaves where the sun cannot reach it. The cellar was added after the preliminary plans were made, the scullery being rearranged to allow of it. This latter is made to obstruct as little as possible the squint window in the living-room ingle, and at the same time gets a south window, which, as there is no fireplace, is a good aspect for it.

The staircase rises from the corridor, and as it is accessible from all parts without passing the doors of the reception-rooms, a back staircase is not needed. Where economy is a consideration the back staircase is one of the first things which may be dispensed with, for it adds so little real comfort in proportion to its cost.

The bedroom plan follows pretty closely the ground plan, the bedrooms also leading off a corridor round the inner court All four bedrooms are arranged so that, in addition to being convenient as bedrooms, they have at least a corner near the fire comfortable to sit in In small houses to regard a bedroom as a sleeping-room only is a mistake. The accommodation is greatly increased when each member of the household can use his or her bedroom as a private den also. The balcony is repeated on the first floor—the bedrooms being as serviceable without the space it occupies—and by reason of the parapet and overhanging eaves, it is even more sheltered than that on the ground floor, and makes it possible in two bedrooms to sleep practically in the open air in almost all weathers. It has special value, too, as an addition to the west room, which is designed for the boy's bedroom and study. Here the bed fits in a deep recess out of the way; a washstand is contrived in the sill of the window of the same recess, which is slightly bayed to give the needful room, and a curtain may be drawn across, cutting off all the special bedroom appliances, so leaving a good comfortable study.

The central court enables the corridor to have opening windows to three aspects, so that some can be open whatever the direction of the wind; it also makes it possible to cut off the bathroom, housemaid's closet and water-closet by means of a lobby having two little windows on to the court. A window is put to bring the south-east sun into bedroom No. 3, the wide sill of which in the rather narrow room may be used for a dressing table. As this chamber is specially well placed for being isolated in case of sickness, it is supplied with a hob grate. In bedroom No. 4 an overhanging window recess is carried out on the joists, to avoid the want of comfort which one always feels on the window side of a room when the door opens on to it right in the corner as here, while the window itself is slightly bayed to add to the outlook. This room has also a little window on to the court to bring in morning sun, and thus all the bedrooms get thorough ventilation and plenty of sunshine.

Of the treatment of the rooms little need be said The recesses by the chimney-breasts are fitted with cupboards and book shelves, which are designed to include simple framings or mantels for the fireplaces, and the cornices of which are arranged to match the cornice over doors and windows and to carry line with a picture rail running round the room. Wall-papers or other decorations stop at this rail, all above being taken in with the ceiling. This arrangement enables the ceiling to be broken up with the slopes of the low roofs without giving the ugly odds and ends of papered wall, which really are the only unpleasing feature about a ceiling broken up in that way.

During the whole of the planning the elevations are, of course, kept in view and the block design carried away in the mind from the site constantly exerts a modifying influence. The difficulty usually is to maintain sufficient simplicity; so many features are suggested by little conveniences of planning that one has often to cut them out, not to seek for them merely for the sake of effect.

This plan which we have just considered, representing perhaps rather a large house to be classed as "small," does not quite illustrate one point to which we attach very great importance in the designing of small houses. The second plan now shown gives me an opportunity of referring to this. Here a special effort was made to obtain one room giving some sense of space in a house not large enough to contain several large rooms. In all small houses much must be sacrificed, but it seems to us to be infinitely less of a sacrifice to reduce the number of rooms than it is to reduce the size of them all until they are mere boxes. In every small house it should, we think, be a first consideration to secure one room large enough to afford some opportunity for interest being worked into the room itself and to allow of some comfort and dignity in the life of its occupants.

In the plan now before us the hall was made into the chief living room; it is carried up two storeys to allow of an organ gallery. The gallery leading to the balcony, the landing and the staircase are all thrown into this hall, the stairs being so arranged as to afford a screen to the fire, forming a sort of deep ingle with low ceiling under the landing. The low ceiling continues under the organ gallery and the balcony, the central part of the hall being open to the full height. The sense of cosiness in this ingle is greatly enhanced by contrast with the lofty open space outside; while the variety in lighting, whether when the morning sun streams in at the great east window or when the ingle glows red in the gathering dusk, adds a perpetual charm. In the gallery is a second fire with a lounge seat by the organ under a kind of canopy formed by the half landing of the second-floor stairs.

To obtain this spacious hall the remainder of the house has been reduced as much as possible. Only one other small room, for den or meal-room, is provided, with kitchens, offices and four bedrooms, two of which are on the second floor. It is open to question whether it would not have been a wiser use of the space to have thrown the vestible also into the hall as was at first intended. Much dignity would have been added to the entrance thereby, while the way from the kitchens to the bedrooms would have been even less through the living parts of the hall than now.

Lest you should be inclined to think that only for people living a very exceptional life would it be advantageous to throw so much space into one room, I will next refer to a design drawn for a London literary man, who, though not able to afford a large house, still by reason of his position required occasionally to be able to entertain a good deal of society. Here the first consideration has been to obtain a hall which would be at once a comfortable living room and a dignified entertaining room. The meal-room has been kept as small as would just allow of a little dinner-party being given in it The fire is placed in one corner, the sideboard in another; had it been possible to put the door also in a corner it would have been still more convenient, for in a small dining-room it is in the corners that there is a little space to spare.

The narrow Hampstead building plot, having a south-west aspect, and the best prospect to the south, dictated the general arrangement of the house and the placing of the best room at the south corner. This room is spanned by two arches to carry the wall of the study over; within one of them is placed the fire recess with seats and fitment, thus using up all the space under the stairs to add to the size and character of the room, while the stairs themselves, which are shut off from the vestibule by a door, are also open to the room, the quarter landing forming a small gallery overlooking it.

The staircase is such an essentially interesting and decorative feature in a house, that it always seems a pity to shut it off in a mere passage, and the space under and around it may be made to add so much to a room both in size and individuality. In old houses the charm of such features is well recognised, for the favourite view, alike for the artist and the photographer, is that which contains some peep of stairs from the hall, some gallery, balcony, ingle or deep window recess. When the most is made of such advantages as can be claimed for the bare square room, they seem but a poor compensation for the loss of character and charm.

Over the hall in this house are placed the client's study and bedroom, the two being combined that both may have the benefit of the whole air space, book-cases and curtains screening off the bedroom portion. Double doors and double windows are fitted to this room, for perfect quiet both by day and by night is essential, and further to secure this ventilation is obtained by means of two fireplaces and an air shaft built in one of the stacks. The client's wife, son and daughter all proposed to make considerable use of their bedrooms in the daytime.

The elevations are somewhat more elaborate and fussy than we should make them now. One gets tired of seeing half-timber stuck about in all sorts of positions, and disinclined to use it even when, as here, some such construction is rather demanded by the roofing.

But I must pass on now to cottages, the second part of our subject. The distinction between a small house and a cottage, never a very clear one, has been further obscured by a common affectation of simplicity. The word certainly suggests a simple shelter for a simple form of life, and for our purposes I propose to regard as a cottage any house in which separate accommodation is not provided for servants. Provision for domestic help there may be, but it must be "as one of the family," not constituting a separate class to be separately provided for.

To cottages, then, all that has been said about the advantage of securing a good living room, even at great sacrifice of other conveniences, applies with additional force. For not only is the total space at our command usually less, but the number of functions which the living room has to provide for is greater, many of the functions of a kitchen being added to it. To combine the comfort of a living room with the convenience for work of a kitchen will tax our skill in planning, and as the space we can give becomes less, our care in the disposal of it must become greater.

Let us again proceed by way of example, taking a largish cottage designed for a client who wished to live a quite simple life, yet on a scale that would allow of his enjoying the more necessary comforts and refinements. The site is near a small Derbyshire town, and consists of a mound caused by the outcrop of some shale grit. On the north runs a stream, down to which the ground falls precipitously; the road is to the west, and there is a steep fall here also; to the east the fall is slight, while to the south the ground rises gently. There are fine views in all directions, most interesting to the north, least so to the south. The client, however, desired the main windows of the living room to be to the west, having a special liking for the evening light. The site seemed to demand a simple oblong house with plain span-roof kept as low as possible, forming a sort of ridge on the steep-sided mound.

The western end of the building naturally becomes the living room, having plenty of window in the desired direction. There is a window to the north to command the best of the view—not a large one certainly, but one so placed that it is natural to look through it from many parts of the room. A window on the south side admits plenty of sun, and in addition on this side there is the outer door, placed there that it may be possible to enjoy the charm which a door opening direct from a room on to a sunny garden always gives. Such a door must however, be so placed that while the peep out is obtained the comfort of the room is not destroyed. Here we have gathered the two doors and the stairfoot together in a narrow part of the room out of the way, leaving all the rest of the space comfortably to occupy.

The fire is placed on the north wall, in a deep recess, one side being devoted to rest, the other to work. The former is occupied by a comfortable low seat; the latter is devoted to a working dresser, fitted with a small fixed bowl for washing up glass and china, drawers, cupboards and plate-rack. To save constant running to and from the scullery, a small hatch closed with a shutter is arranged to open on to a wide enamelled shelf, so that saucepans and such like can be handed through. All the kitchen work done in the living room is thus confined to the one corner handy to the fire for cooking, and well lighted by the north window, which does not add any unwelcome heat just there.

The fire is designed to make either a closed cooking-stove or a comfortable open fire to sit round, as required. Unfortunately it has to be set in a chimney-breast, but by filling the recesses each side with cupboards, book-shelves and coal-box, and not carrying the seat beyond the face of the breast, part of the effect of this is removed, and some, at any rate, of the charm of an ingle is secured. The floor of the recess is tiled, too, which enhances a little the feeling of sitting on the hearth, and at the same time affords the most easily cleaned floor for the working corner. We are enabled to get a sheltered garden seat by reducing the width of the recess to a more comfortable dimension. The ingle is further defined by an archway, on one side of which is fitted a writing-desk with closing flap, drawers and book-shelves, and on the other the piano is designed to stand, occupying part of the space under the rising stairs, the remaining portion being taken up with music cupboard and book-shelves opening into the living room, and a store cupboard opening into the kitchen. A second lounging place is provided by a wide low window seat in the main window, and between that and the meal table is fitted a small side table with cupboards and shelves to hold the oddments used at the table. Fixed seats are arranged for two sides of this table, one having a high back to screen it from any draught coming through the outer door.

To this one good room is added a kitchen for the more dirty work, fitted with a small range; a good cupboard for coats and hats by the entrance; a coal-place and larder. Upstairs are four bedrooms, one, being rather narrow, has a bed-recess taken off the larger room to help it, and as it is over the low ceiling of the ingle it gets the advantage of extra height under the sloping roof, and thus the low ceiling, which adds so much to the feeling of cosiness in an ingle is made to help the bedroom over. Where some such arrangement as this is not possible, we sometimes utilise the space between the low ceiling and the floor above as a storage cupboard, and we often take advantage of it for ventilating purposes by bringing fresh air into the room slightly warmed by passing behind the fire, and delivering it over the opening to the recess, where it is distributed with the least possible draught. Where an outlet into a flue is desirable to supplement the exhaust due to the fire, we find this a very good place to arrange it. In a room with close-fitting iron casements, sufficiently well built not to leak excessively through floors, skirting and door, the most frequent cause of a smoky chimney is the want of sufficient air-supply, and some form of inlet is an absolute necessity. In bedrooms we have successfully arranged this through a hollow fender kerb in some places.

All the bedrooms in this cottage are so arranged as to have a fairly comfortable corner between the fire and a window, where one can sit to read or write. An east aspect is obtained for the bathroom, and a linen cupboard warmed by the cylinder is provided.

Of the elevations I need only say that local random range stone is used for the ground storey, while for the upper portion the need for obtaining four bedrooms over a house so narrow required the use of 9-inch brick walls, which are rough-cast in cement. To avoid the expense of dressed stone, and also to connect a little the two storeys, all the windows have brick jambs and mullions, and the rough-cast is carried down over them. The roof is covered with local stone slate.

It is obvious that the living room of this cottage could with much less trouble have been made a four-square room, with a fire at one end and a door at another, and might have been furnished with a mixture of kitchen and parlour furniture; but I shall have rather sadly missed the purpose of this paper should you not now feel, as we do, that life would be immensely more comfortable and more dignified in a room such as I have been describing, where each requirement has been considered and provided for, and where just the shape and arrangement have been given to it which seemed best to meet those requirements; where, moreover, all the furniture has been designed in keeping with its place and its purpose so that there is no incongruity between the desk and the dresser, the piano and the plate-rack.

Time will not permit me to refer in detail to any smaller cottage plans, some illustrations of which you will see. But enough has, I hope, been said to make it quite clear that, whatever the size of the house, we think it should grow, both as a utilitarian plan and as an artistic creation, out of the real needs of the occupants; and that the art of designing small houses and cottages consists, not in following any accepted code of conventions, however useful these may be in their place, but in working out such a convenient and comely setting for the special life that shall be lived in them as shall enable that life to expand itself to the fullest extent, not merely unhampered by the building in which it is clothed, but actually stimulated by a congenial surrounding.

[As it is not possible for us to reproduce the illustrations which accompanied this paper, it may interest our readers to know that we understand most of them will be included in a volume of lectures by the authors, which is about to be issued by Messrs. Longmans, Green & Co.]

ROYAL HIBERNIAN ACADEMY.

A SPECIALLY convened meeting of the Academy was held on Wednesday in last week. Sir Thomas Drew, president, in opening the proceedings, said he had convened the meeting for the purpose of formally announcing to it the death of Her late Majesty the Queen, patron of the Academy. He had on first hearing of that sad event telegraphed a message of the sympathy and condolence of himself and the Academy with the Royal Family, which received an immediate and gracious reply. He now proposed that an address be prepared and presented to His Majesty King Edward VII.

The following message of sympathy was then unanimously agreed to and instructions given to have it forwarded to the proper quarter:—

"We, the President and members of the Royal Hibernian Academy of Arts, in general assembly, desire respectfully to convey our sense of the great loss and affliction sustained by your Majesty, by the Royal Family and the nation in the death of our late beloved Sovereign the Queen, patron of our Academy, a loss in which we participate with all your Majesty's Royal subjects. We earnestly pray that your Majesty's coming rule may be long extended over a happy nation, and that those arts of peace which we pursue may flourish throughout your Majesty's Empire."

It having been announced that the proposed conversazione to be held in co-operation with the Art Union of Ireland had been abandoned as a mark of respect, it was further ordered that the opening of the annual exhibition be postponed to Monday, March 11.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AT a meeting of the Council of the Royal Institute of British Architects, Mr. William Emerson, president, in the chair, the following address was unanimously approved:—

We, your dutiful subjects, the president and council, on behalf of the members of the Royal Institute of British Architects and of the societies both in the British Islands and the colonies in alliance therewith, beg leave humbly and respectfully to approach your Majesty, and to offer our deep and heartfelt sympathy in the inexpressible loss your Majesty, the members of the Royal Family and the nation have sustained by the death of your Royal mother our late Most Gracious Sovereign Queen Victoria of glorious memory. Her late revered Majesty encouraged with her Royal and generous patronage the art that is so dear to us, and we mourn with deepest sorrow, not only in common with the rest of the British Empire, our beloved ruler, but also the gracious and beneficent patron of the Royal Institute throughout the whole length of her long reign. We most respectfully and dutifully tender to your Majesty our sincere devotion and loyalty on your accession to the Throne, and earnestly pray that the Almighty will grant your Majesty and your Royal Consort Queen Alexandra a long, happy and glorious reign during which the nation may prosper, the arts flourish, and your Empire enjoy all the blessings of peace.

THE INSTITUTION OF CIVIL ENGINEERS.

AT the ordinary meeting on Tuesday, February 5, the president, Mr. James Mansergh, before beginning the ordinary business, proceeded to make known the terms of an address which it was proposed should be transmitted to His Majesty the King on behalf of the whole body of members of the Institution, expressing their profound sympathy on the death of the late revered Queen, and their loyal congratulations on His Majesty's accession to the Throne The address was adopted *nemine contradicente*, the whole audience standing.

A paper was read on "The Present Condition and Prospects of the Panama Canal Works," by Mr J. T. Ford, M Inst C E.

The paper began with a few remarks as to the general importance of the subject, and expressed the hope that the facts put forward might tend to modify the somewhat unjust estimate that had been formed of the character of the distinguished originator of the Panama Canal Works, owing to the unfortunate cessation of work at the Isthmus. A short historical sketch of the work was then given, from its inception at the International Congress in Paris in 1879, down to the liquidation of the old company and the formation of the New Panama Canal Company under the auspices of the officers appointed by the French courts. The labours of the new company were discussed and classified under three important heads. First, the maintenance and recovery of all the plant, material and buildings on the Isthmus that could be considered valuable on a resumption of the work at a future date. Second, the formation of a Technical Commission of Engineers, to make surveys in detail, borings and meteorological observations; to determine the feasibility or otherwise of the Canal under any plan of construction, and to submit to the company such plans as they would recommend for completion of the work, with full estimates, &c. Third, the prosecution of such excavation work on the Canal itself, principally on the great cuts of Culebra and Emperador, as would be not only substantial progress on the work itself under any plans that might finally be adopted, but might also serve to prove the perfect possibility of those great cuts, which had been questioned with the result that doubt had arisen as to the feasibility of the whole work Further, to carry out the deepening of the channel in the Bay of Panama and the construction of a large steel pier at that end of the Canal, so that vessels in the Pacific could come alongside, and in connection with the Panama railway (principally owned by the Canal Company) an improved and more economical method of handling the traffic across the Isthmus could be established, to the benefit of the Canal enterprise itself during the continuance of the work of construction.

The subject of the present position of the Canal works and their future prospects was then dealt with under the following five headings, the conclusions therefrom being in the author's opinion generally favourable to the continuance of the work:—(1) The present condition of the works, after their practical abandonment and neglect for upwards of eight years, in its bearing on the question of the stability or permanency of such work in that particular region, in the event of the Canal being completed; also the present condition of encampments, and provision for the large number of labourers to be employed on different sections. (2) The fitness for service in the continuation of the work of the existing plant, machinery and materials generally, judging from their condition to-day as to state of preservation, more or less obsoleteness of pattern, &c., and the extent to which new material would be required. (3) The extent to which the investigations and published reports of the New Panama Canal Company inspired confidence in the solution of the physical and technical problems admittedly left doubtful by the old company, and the nature of the essential points that caused adverse criticism and differences of opinion among eminent engineering authorities as to the possibility or otherwise of constructing the Panama Canal at all. (4) A general description of the essential features of the plans finally adopted by the International Commission of Engineers, invited by the new company to decide upon various projects after making their own independent and detailed investigations, with dimensions of the several sections of the work, &c. (5) The author's estimate of the proportion of the total work already completed, the time required for completion, and the reasons for such conclusions.

It was stated that the works were in far better condition than was generally supposed, even the maritime or sea-level sections—those most exposed to tidal and flood damages—having suffered but little. Further, that while a considerable amount of new plant would be required, there remained much that was still serviceable, as had been shown by the work accomplished by the New Canal Company. With regard to the inherent difficulties to be encountered in the construction of any canal at Panama, whether at sea-level or with locks, the author expressed the opinion that a sea-level canal, although it would be extremely costly, would be in every sense feasible, and would certainly be the ideal solution of the problem The three main difficulties of a canal at Panama were:—The question of water-supply for lockage purposes during the dry seasons; the control of the Chagres river during its flood seasons; and the nature of the material encountered at the great cuts of Culebra and Emperador.

These three important questions having been thoroughly and exhaustively examined with actual experimental work under practical conditions, a favourable solution to all of them had been given by three alternative plans submitted to the company, all equally feasible, for a lock-canal with the summit-level at 126 feet, 98 feet and 62 feet respectively above sea-level; one of these, the medium plan with summit elevation at 98 feet, was recommended. The author strongly urged the superior advantages of the lower plan with summit-level at 62 feet above sea-level in opposition to the plan recommended by the Commission. A full description was given of the route and engineering features of the plan adopted, the general lines of which were identical for all three projects, except in the important feature to which the author objected, viz. the auxiliary supply canal from the storage-reservoir above the Alhajuela dam to the summit-level of the Canal. This feature would be eliminated with great advantage by the adoption of the 62-feet level.

The author was of opinion that, assuming the Canal to be completed according to the plan proposed by the Commission (and taking into account the general work done, not only in excavation proper, but in the establishment of existing conditions on the Isthmus, opening up and improving sanitary conditions, settlement of a permanent population as a nucleus for the labour supply, &c.), the effective work already accomplished on the Canal fairly represented a sum of money equal to the amount still to be expended, according to the estimate of the Technical Commission, for completion, and that the Canal could be completed in eight or ten years; hence one-half of the Panama Canal might be considered as already completed, in spite of the admitted extravagance and errors of the old company. The author's reasons for this conclusion were given at some length.

The paper concluded with some general remarks as to the existing sanitary conditions of the Isthmus of Panama, showing great improvement in recent years, as a result of the Canal works, and without entering into any comparisons with other proposed routes for a canal across the Central American Isthmus, the author was of opinion that at no place other than Panama could a canal of equal capacity and general advantages as to stability, low cost of maintenance, facility of transit and safety and sufficiency of harbour accommodation at both ends be completed for the same cost or within the same period of time. In an appendix to the paper a summary of quantities and items of expense included in the 20,816,000*l*. needed to complete the work was given, extracted from the published reports of the Technical Commission.

TESSERÆ.

Mediæval Church Clocks.

THERE was prior to 1298 a clock at St. Paul's Cathedral which struck the hours on a bell by means of mechanical figures, and Decker in his "Gull's Hornbook" calls them "Paul's Jacks." In the accounts of the cathedral for the year 1286 the allowances to Bartholomo Orologiario, the clock-keeper, are entered, namely, of bread at the rate of a loaf daily. In 1344 the dean and chapter entered into a contract with Walter the Orgoner of Southwark to supply and fix a dial. It is suggested that the clock previously struck the hours, but had no dial. In Dugdale's history of the old cathedral the dial is referred to as follows:—Somewhat above the stonework of the steeple was a fine dial, for which there was order taken in the 18th of Edward III. that it should be made with all splendour imaginable, which was accordingly done; having the image of an angel pointing the hours both of the day and night." The dial was placed below the "Jacks," which were not ousted from office, but continued to strike the hours with their accustomed regularity. Decker says, "The time of St. Paul's goes truer by five notes than St. Sepulchre's chimes." There appears but little doubt that dials were absent from most of the early clocks. M. Viollet-le-Duc observes that from the twelfth to the fourteenth centuries no space was arranged in the towers of churches for dials which could be seen at a distance. The earliest dials, he says, were covered by small projecting roofs and made either of wood or lead and decorated in colours. Mechanical figures similar to the St. Paul's "Jacks" seem to have been in use before the introduction of dials and proved to be a lasting attraction.

National Art in Greece.

In the Greece of history every city was full of temples and porticoes, and every portico, every agora and every temple was one vast storehouse full of works of great painters and sculptors. Nor were these intended merely to please the eye and intoxicate the senses. There was not a statue and not a relief which did not speak to all beholders of some incident of mythology or some notable deed of history. Mythology and history alike stood there in concrete form in all the streets and public buildings of the country. The Greeks did not read or hear of the gods and the deeds of their own ancestors; they saw them every day wherever they went. Love of their native city was not with them a sentiment, but a passion for this temple, that painting, that stoa. And when they went into their houses the same scenes which they had witnessed without met them again. The walls of their rooms and the pottery of common use were all painted with exploits of gods and men. Their very mirrors and pins were adorned with human figures, not one of which wanted its meaning. Thus to the Greeks the works of their artists were not merely things to admire and symbols of worship, they were geography, history, religious teaching and literature. For the common people the rare scrolls of parchment and papyrus which held the writings of authors were far out of reach; it was less through the ear than through the eye that they received the education which raised them out of the narrow limits of the present. How then can anyone aspire to understand Greek manners, Greek civilisation, Greek history, if he is ignorant of the chief source of Greek education, and knows nothing of what occupied constantly the largest part in the minds of the people?

Eurythmy with the Greeks.

The minds of mathematicians, like Euclid, his rivals and his pupils, would never have been satisfied unless the mysterious harmonies of nature had been duly represented in the theory of Grecian architecture. The earnest study by the Greeks of measure in music and metre demonstrates their partiality for the refinements of time and rhythm, and for such temperaments their architecture to be perfect required a corresponding field of development. Hence arises that well-understood division of parts in architecture, the harmonious gradation of which is testified to by the retention of certain terms common to architectural and musical science to the present day. Modulation as a system was, at once in architecture and in music, a method of uniting and levelling by gentle approximations all parts otherwise unequal or discordant, the only way of passing agreeably from one set of associations of idea in any shape to another. It was these very exigencies of modulation which formed so important a branch of the study of eurythmy, which induced the organisation by the Greeks of that subtle system of optical correctness which they carried to a far greater refinement than has ever been aimed at by any other people in the history of art—refinements which, if we could have still presented to us the masterpieces of Grecian painting, as we have of their architecture and their sculpture, we should have found to have constituted a portion of their daily practice in every branch of the fine arts. We find it in their technical arts, whether in the simplest form of the humblest vase thrown on the potter's wheel or in gigantic monuments such as that of the Parthenon, the Erechtheum or the Temple of the Olympian Jove.

The Gods in Etruscan Art.

If it be true, as has been said, that belief in beneficent gods is a mark of the Aryan stock, then assuredly the Etruscans can lay no claim to a pure descent from it. A superstitious people, with whom, as with the Egyptians, all that concerned the dead was an absorbing preoccupation, they were held in thraldom under a rigid creed of terror and of gloom, a creed obscured by mystic rites and stained in its origin with human blood. Worshipping amongst many gods, some that were common to them and to the Greeks, they imparted to these gods a grimness which was their own. No less than nine of their deities wielded the thunder; Tinia, their Treus, held alone three of the deadly bolts; Mantus, the god of the Kingdom of the Dead, was horrid with writhing snakes and hooded with the skin of a wolf. Serpents wreathed the head of Mania, his queen. Charun, who with the Etruscans corresponded to Hermes, the silent-footed leader of departed souls, the Psychopompos, was made by them repellent with every grotesque horror. Their rugged realism drew Fate, the inexorable, in the act of driving home with uplifted hammer the iron nail of doom Over all other gods, removed, inexorable, supreme, sat shrouded deities, the Involuti, whose number was unknown, before whom Tinia himself bowed in submission. But this was not enough of haunting mystery; the air was thick with demons and with genii; to one of these, an elf child, but with an old man's head, Tages by name, they owed the sacred volumes which held their rule and discipline of faith. To such a faith the art of divination, an Etruscan art, the interpretation of the flight of birds, of entrails, of the skies, of prodigies of every kind, added a fitting complement. And this religion held the Etruscans within a doubly formidable grip, for civil and religious authority went hand in hand in the policy of their State.

Irish Churches.

The ancient Irish churches are almost invariably of small size, their greatest length rarely exceeding 80 feet, and being usually not more than 60. One example only is known of a church of greater length, namely, the great church or cathedral of Armagh, which, according to the tripartite Life of St. Patrick, was originally erected of the length of 140 feet. That 60 feet was, however, the usual length, even of the larger churches, appears not only from their existing remains, but also from the accounts preserved in the ancient lives of St. Patrick, in which that length is given as the measurement of Domhnach Mor, or Great Church of Patrick, near Tailteann, now Teltown, in Meath. These churches in their general form preserve very nearly that of the Roman basilica, and they are even called by this name in the oldest writers, but they never present the conched semicircular apsis at the east end, which is so usual a feature in the Roman churches, and the smaller churches are only simple oblong quadrangles. In addition to this quadrangle, the larger churches present a second oblong of smaller dimensions, extending to the east, and constituting the chancel or sanctuary in which the altar was placed, and which is connected with the nave by a triumphal arch of a semicircular form. These churches have rarely more than a single entrance, which is placed in the centre of the west end; and they are very imperfectly lighted by small windows splaying inwards, which do not appear to have ever been glazed. The chancel is always better lighted than the nave, and usually has two and sometimes three windows, of which one is always placed in the centre of the east wall and another in the south wall; the windows in the nave are also usually placed in the south wall, and excepting in the larger churches, rarely exceed two in number. The windows are frequently triangular-headed, but more usually arched semicircularly, while the doorway, on the contrary, is almost universally covered by a horizontal lintel, consisting of a single stone. In all cases the sides of the doorways and windows incline, like the doorways in the oldest remains of the cyclopean buildings, to which they bear a singularly striking resemblance. The doorways seldom present any architectural decorations beyond a mere flat architrave, or band, but are most usually plain; and the windows still more rarely exhibit ornaments of any kind. The walls of these churches are always perpendicular, and generally formed of very large polygonal stones carefully adjusted to each other, both on the inner and outer faces, while their interior is filled up with rubble and grouting. In the smaller churches the roofs were frequently formed of stone, but in the larger ones were always of wood, covered with shingles, straw, reeds and, perhaps sometimes, with lead.

Odd and Even in Churches.

The old church of St Mary, Coddenham, Suffolk, is an excellent instance of that very characteristic and pervading feature (for such we believe it to be) of Pointed architecture which may be called "perissotes." That odd numbers are suggestive of the infinite, as even are of the finite, is a psychological fact more certain than explicable. But in that fact we must doubtless find the solution of the predominance of odd numbers in the details of Christian architecture, particularly in all such as are seen, so to speak, vista-wise, the effect produced or suggested in these instances being that of limitless extension. Thus, to take the example most in point, the case of roof interiors. Were the number of bays even, a completeness of sum, and consequent idea of repose, would be suggested to the mind immediately on becoming conscious of it But the never-failing odd bay, and in like manner the odd arch or pillar or window, as commencing a new sum which is never finished, carries in it the idea of a reaching out into the infinite The number of bays in the nave roof of this church is nine; nine and eleven are the most common numbers, in Suffolk churches. The arches of the south aisle are four, and so at first sight form an exception to the "perissotes" spoken of; but the north aisle having but three, the entire number is seven, and we cannot doubt that there was design in this. As there are responds, the piers are seven in number likewise, reckoning each pair of responds as one pier. The windows on the south side are in like manner four, on the north three, in all seven, or, taking in the four which terminate the aisles and nave to the east and west, in all eleven. The clerestory windows are seven on one side and five on the other.

GENERAL.

Sir John Aird announces that the last channel acrossthe Nile at Assouan was closed last Tuesday.

A New Theatre will be erected at Folkestone at a cost of 20,000*l*. The old theatre is to be turned into a winter garden.

An Exhibition of British arts and industries will be held shortly in the Tauride Palace and grounds at St. Petersburg.

A Public Meeting will be held at Tolmer's Square Institute on Monday next to advocate the widening of the Hampstead Road

The Ancient Aqueduct which brought water from Bethlehem through the Hinnah Valley, thought to be the work of Herod, was built, as proved by recently-discovered inscriptions, by the Emperor Severus, in the year 195 A.D.

The Two Sheriffs of London, Mr. Alderman Vaughan Morgan and Mr. Lawrence, have decided to present to the City a painting for one of the vacant panels in the Ambulatory of the Royal Exchange, commemorating the proclamation of Edward VII. from the steps of that building on Thursday, January 24.

M. Bonnat, the portraitist, has presented to Bayonne, his native city, his valuable collection of paintings and drawings. A part of the collection, consisting of works by Rembrandt and Vandyke, with a number of drawings by old masters, has already arrived, and is now being arranged in the Musée Bonnat.

Mr. Griselle, of Oxford, proposes to raise funds to erect a monument in St. Peter's, at Rome, to Nicholas Breakspeare, or Adrian IV., the only Englishman who has been Pope. The Englishmen who have monuments in the Vatican Basilica are the last two Stuart Pretenders, who were commemorated in marble by Canova.

Mr. W. G. Strickland, of the Dublin National Gallery, delivered a lecture last Monday before the National Literary Society on "Irish Engravers." There was also an exhibition of engravings illustrating the lecturer's address.

Bishop Sumner, acting for the Bishop of Winchester, dedicated on Tuesday a new tower which has been erected in connection with St. Michael's Church, Bournemouth, at a cost of 6,000*l*. The tower has been placed in a nearly central position on the south side of the church, and in style is a rather late variety of Early English. A figure of St. Michael stands above the gabled entrance. The architect is Mr. J. Oldrid Scott, of Spring Gardens, London.

Mr. Julian Story, the American painter, has been appointed a Chevalier of the Legion of Honour.

The Plans for reconstructing the Imperial Theatre, Westminster, for Mrs. Langtry, have been approved by the theatres committee of the London County Council.

The Auxiliary Jury for the competition for the Prix de Rome in architecture will consist of MM. Guerhardt, Leclerc, Pontremoli, Sortais, with MM. Bénard and Boeswilwald as a supplementary jury.

Lord Iveagh has given the commission for the "Bull Alley" scheme of workmen's dwellings to Mr. Delissa Joseph, of London, whose representatives in Dublin are Messrs. Kaye Parry & Ross.

The New Art Gallery in Whitechapel is to be opened on March 12. Among the works promised for the loan collection are the seven pictures which were shown in the British Pavilion at the Paris Exhibition :—"Bellini's Pictures carried in State to the Redemptore," by Turner; Constable's "White Horse"; "The Lady's Last Stake," by Hogarth; portraits by Reynolds, Romney, Lawrence and Raeburn; Gainsborough's "Shepherd Boy" The collection will be particularly rich in works by Ford Madox Brown.

A Resolution in favour of the construction of subways under all the leading thoroughfares of the Metropolis, to contain gas and water pipes, telephone and telegraph wires, was carried at the meeting of the London County Council on Tuesday.

The New Land Registry Offices in Lincoln's Inn Fields will not encroach on the fore courts, as was originally proposed. The front will be in line with the portico of the College of Surgeons.

The Remnants of Ancient Art which continue to be raised from the bottom of the sea near the coast of Cerigo already form a collection of the highest interest.

Messrs. H. Grevel & Co. have commenced the issue of a series of photographic illustrations of examples of fine and applied arts, under the title of "The Practical Art Gallery." The contents are varied, and architecture is not neglected, as is too often the case in similar publications.

The Glasgow Institute of Fine Arts are to hold in the autumn a Scottish Art Exhibition, to comprise works by Scottish painters, no matter where resident.

Mr. B. T. Batsford announces a second issue of Mr. Edwin O. Sachs's monumental work, "Modern Opera Houses and Theatres," which will be published in the spring. Mr. Sachs's work comprises three grand folio volumes with 220 plates and over 1,000 illustrations, and the first edition appeared 1896 to 1898, after having required over eight years' preparation. The work is by far the most comprehensive on any special architectural subject published during the past century. The new issue will be in no wise inferior to the original, and will contain a special prefatory note dealing with the latest developments and improvements in theatre architecture which Mr. Sachs has to such a great extent been instrumental in bringing about, not only at home, but in foreign countries.

A Stained-Glass Window has been placed on the east side of Wesley's Chapel, City Road, as a memorial to the late Mr. W. Willmer Pocock, the architect of the Metropolitan Tabernacle. Mr. Pocock was for many years closely connected with metropolitan Methodism, his grandfather having been present when John Wesley laid the foundation-stone of the City Road Chapel, nearly a century and a quarter ago. The memorial window has a representation of King Solomon and his Temple.

A Discussion on "The State of our Streets" will be opened at the meeting of the Sanitary Institute on Wednesday next by Mr. Thomas Blashill. The chairman will be Sir A. R. Binnie.

The Edinburgh Architectural Association will on tomorrow visit the Royal High School, the Old Tolbooth, Canongate, and the Canongate parish church.

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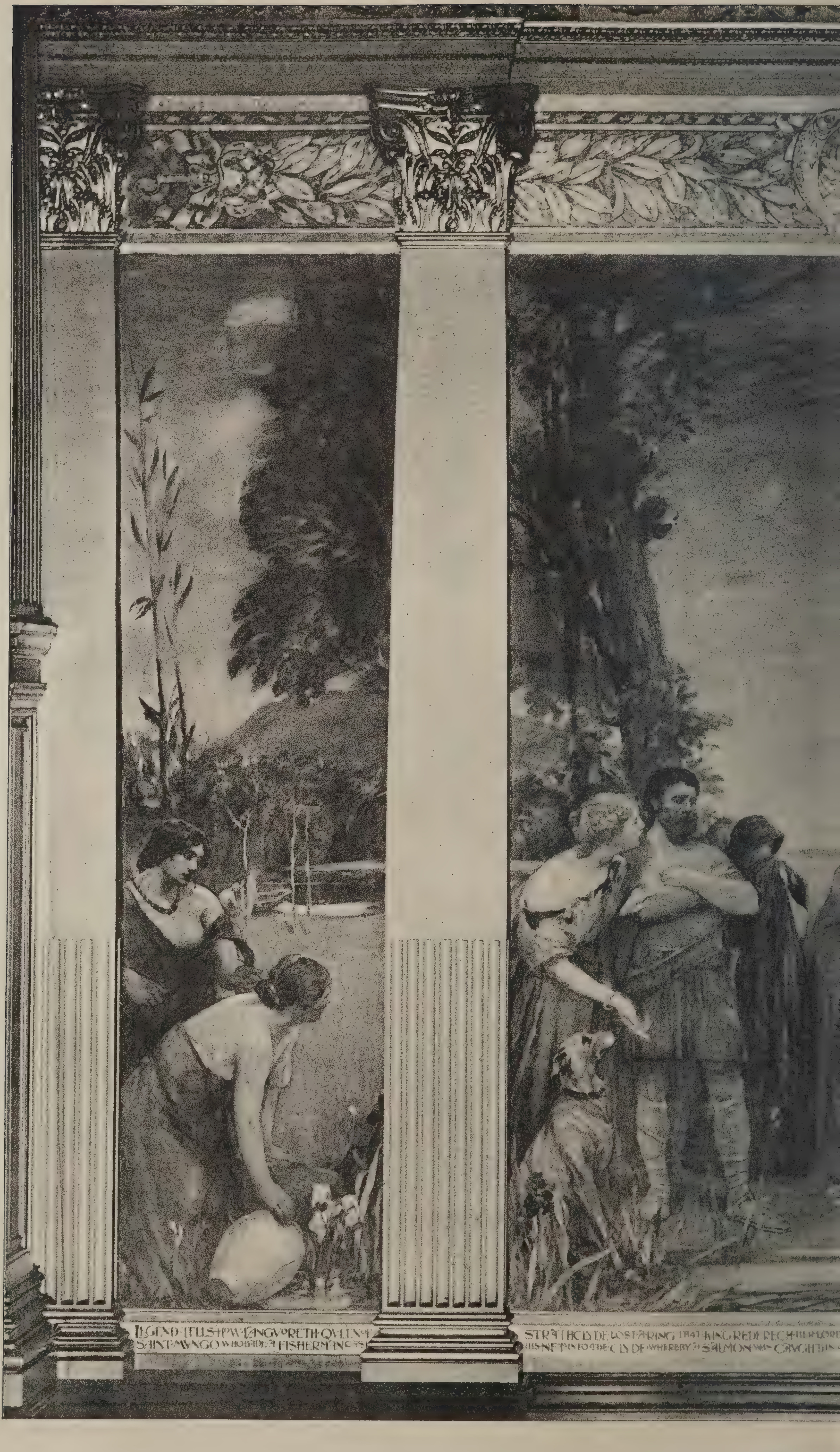
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PANEL IN GLASGOW

By ALEXAN

EN HER FOR A LOVE-TOKEN WHEREFORE HE WOULD HAVE HA
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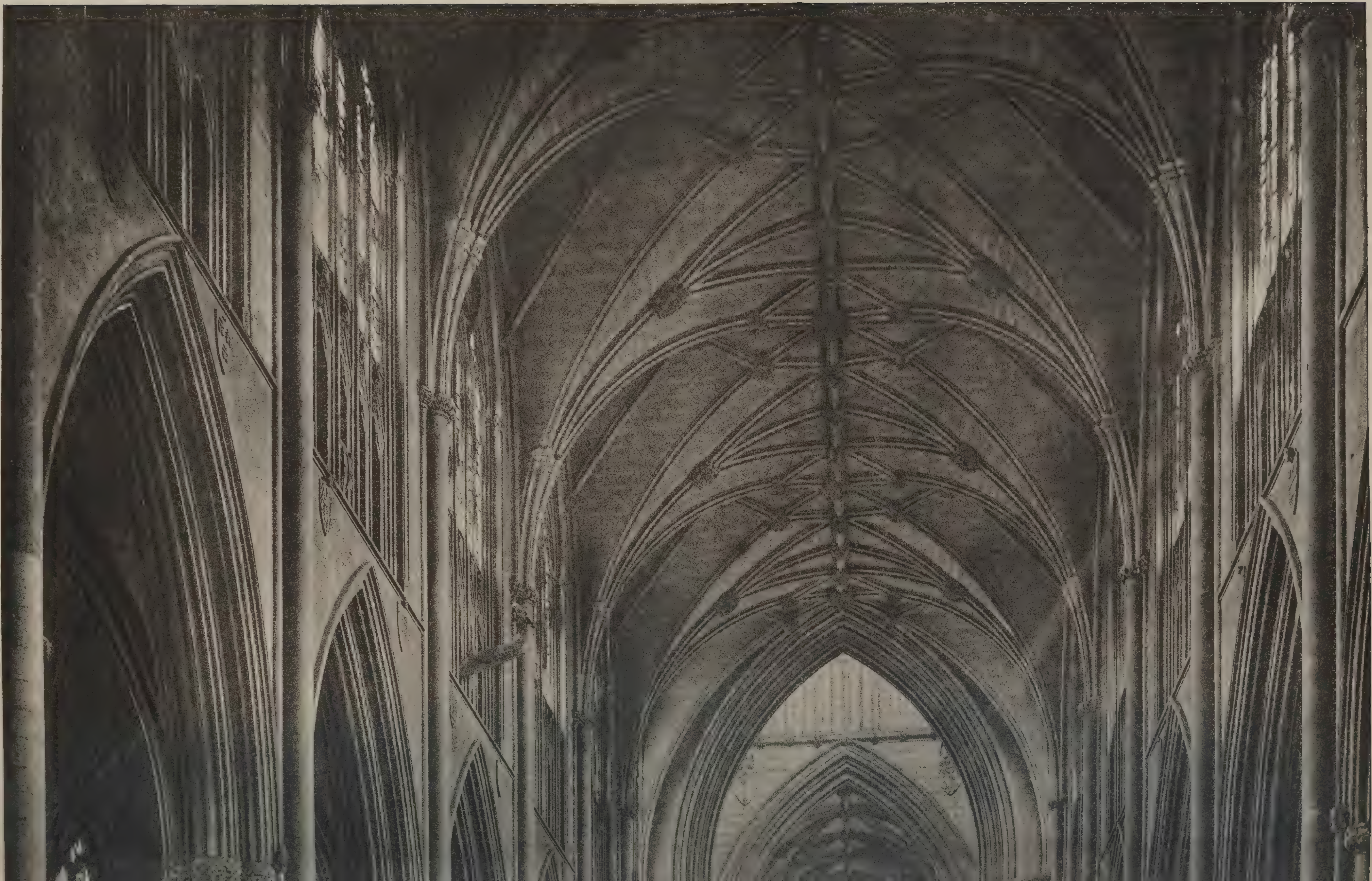

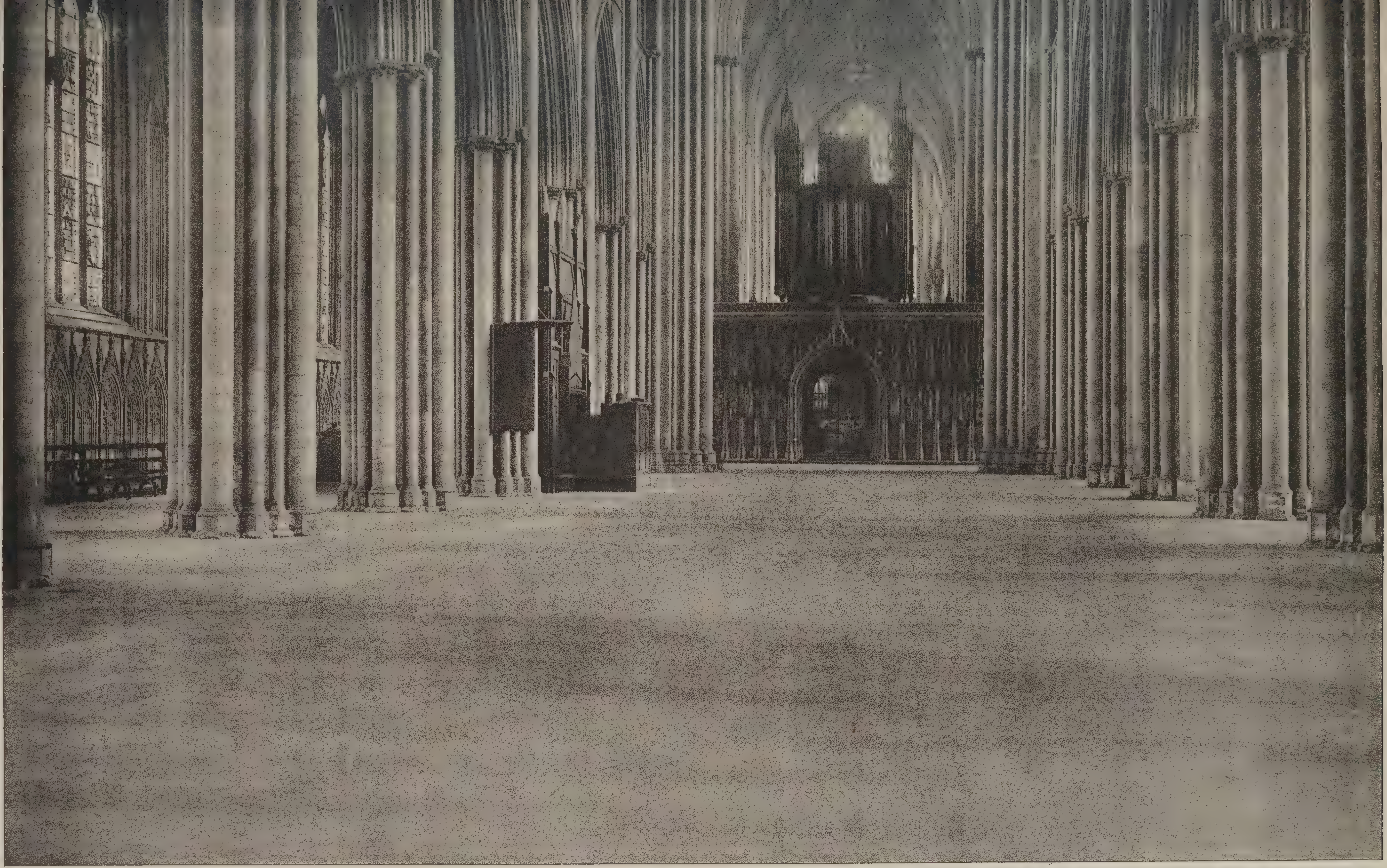

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CATHEDRAL SERIES, No. 318.—YORK MINSTER: THE NAVE, TO ORGAN SCREEN.

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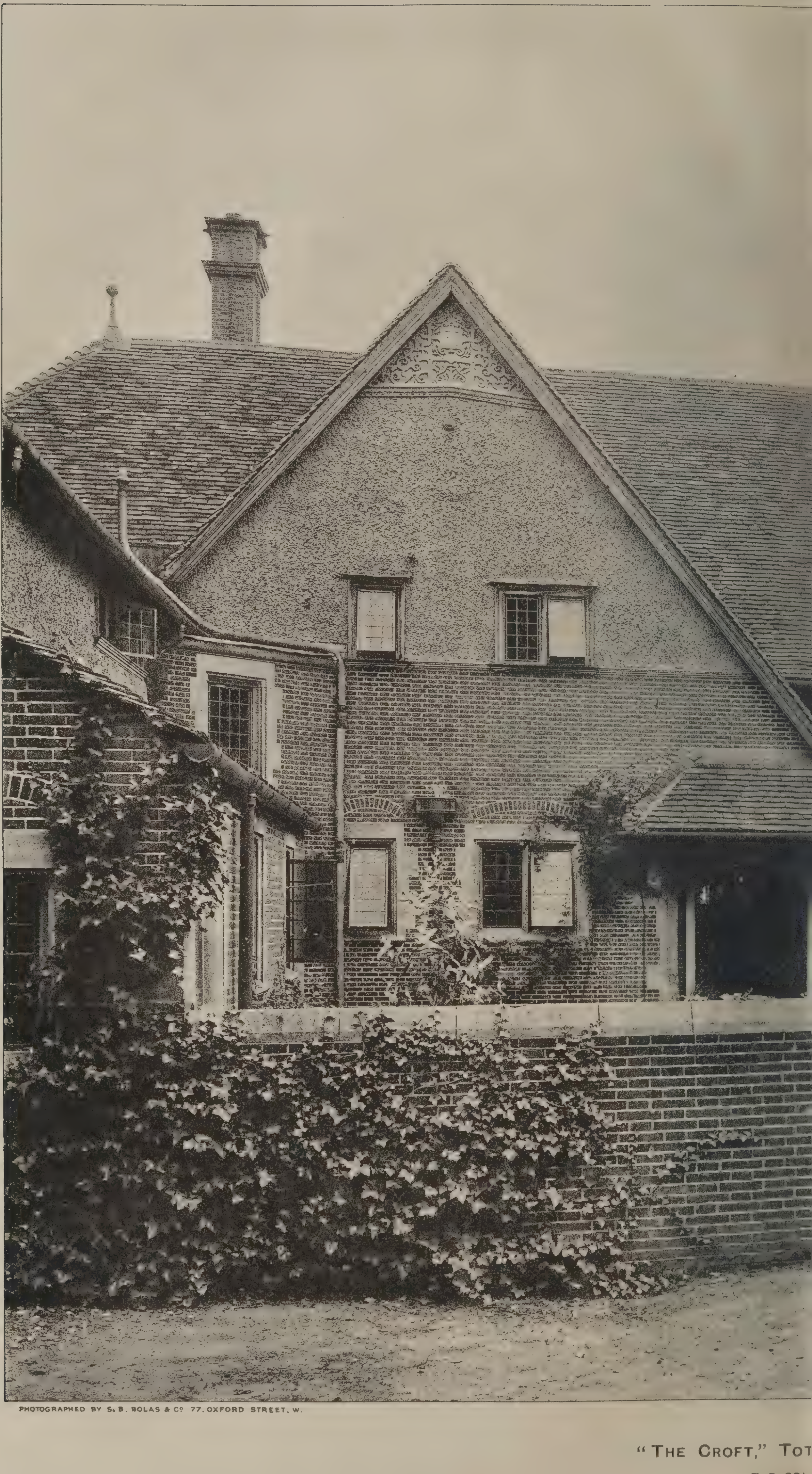

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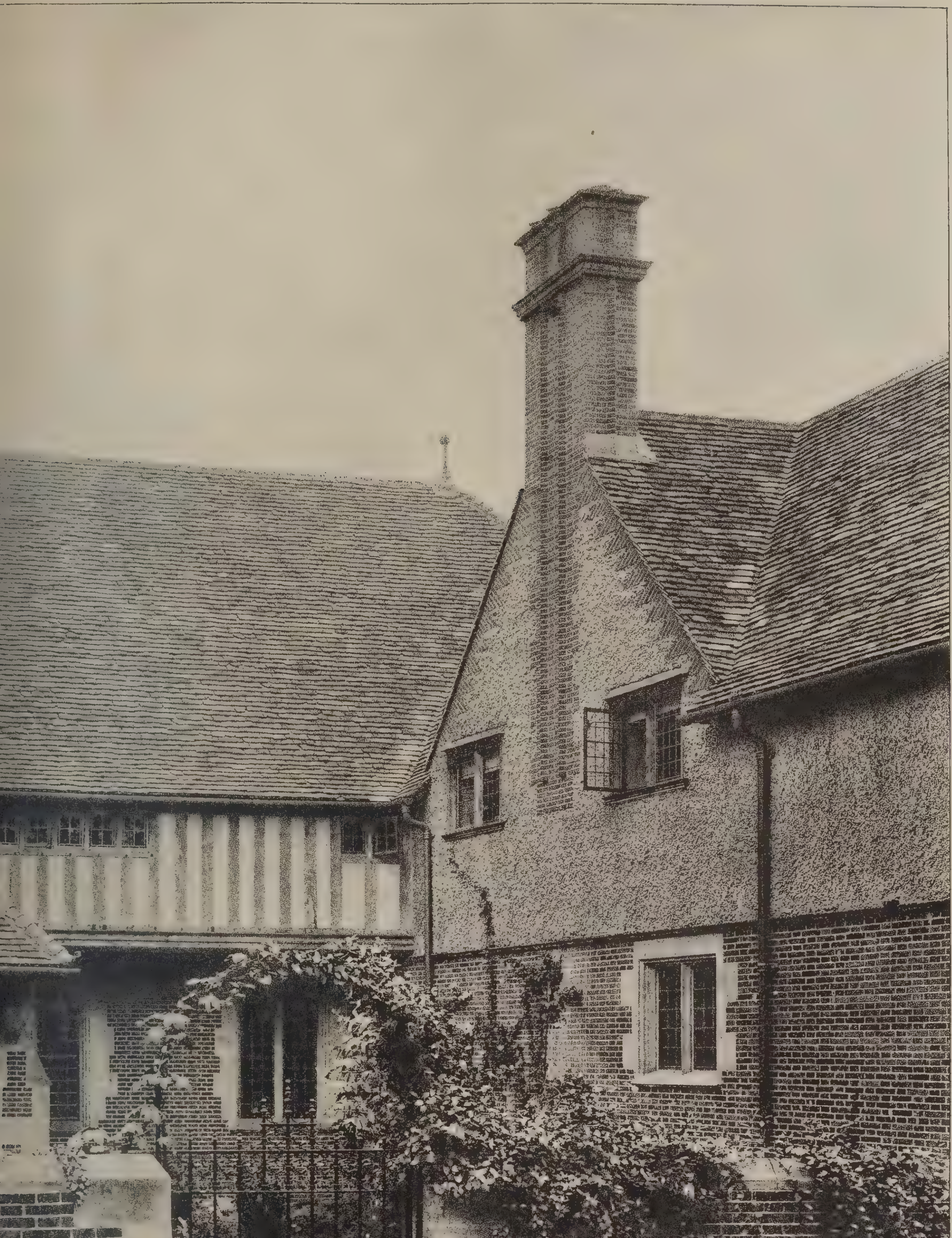

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GE: THE ENTRANCE.

Architect.

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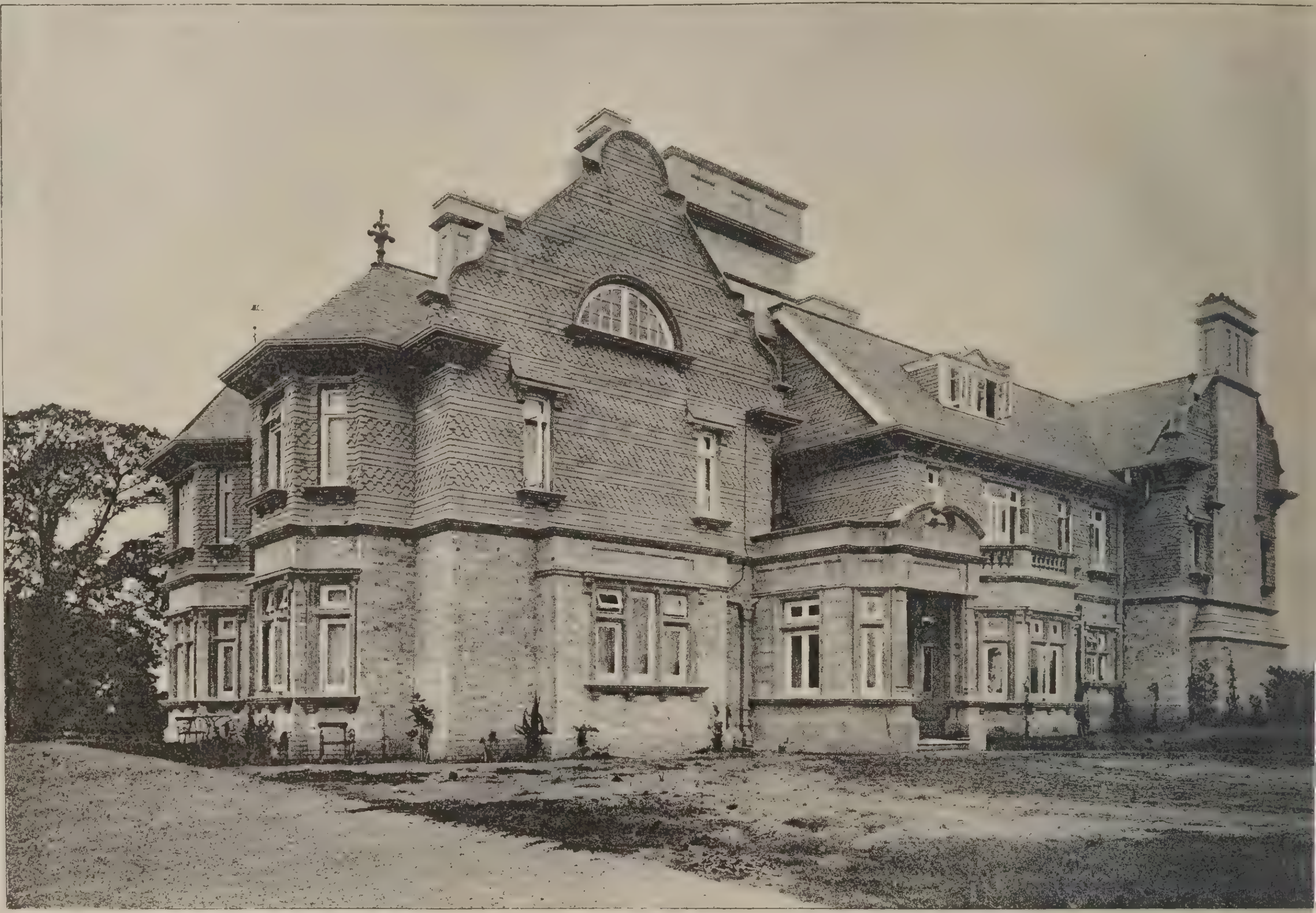
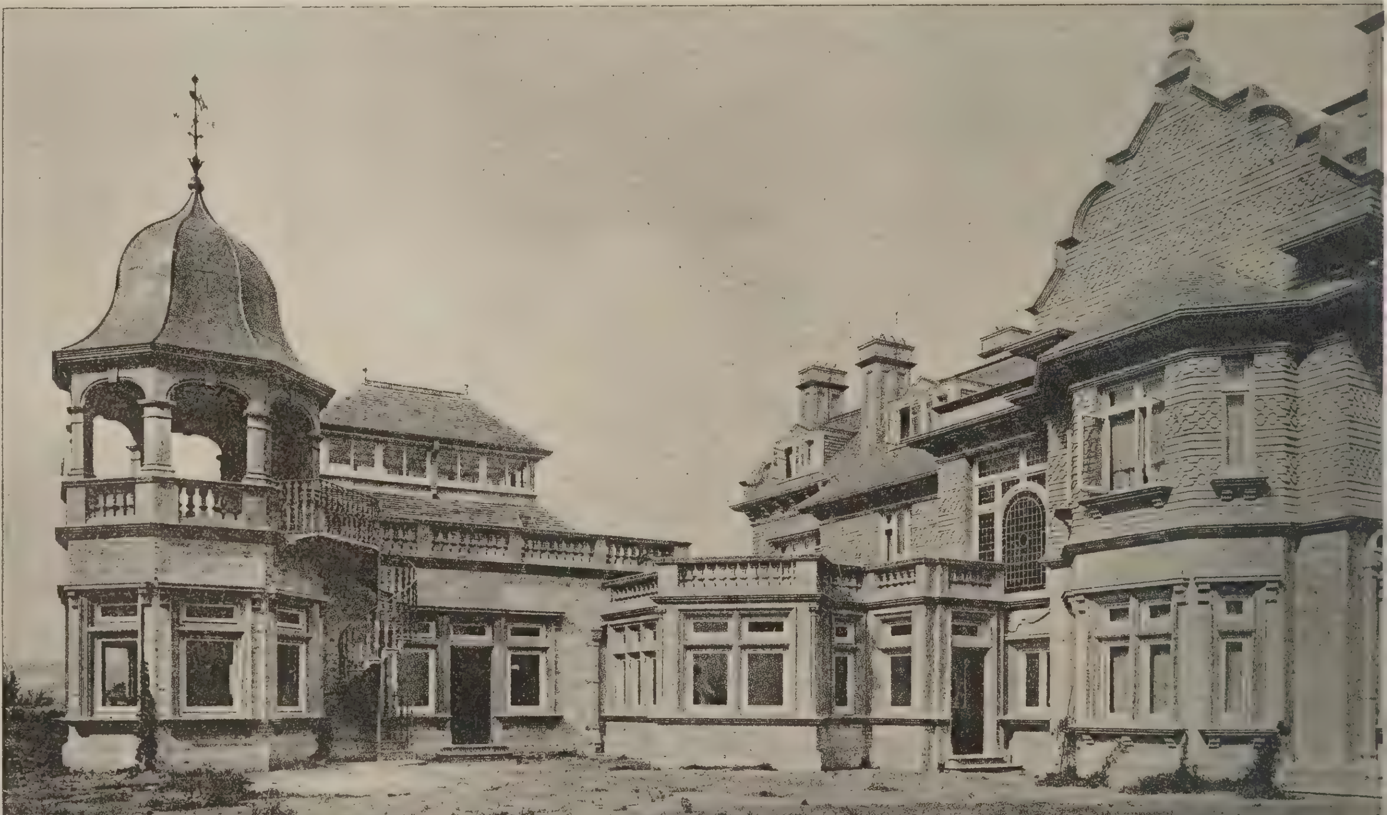


EAST VIEW.



SOUTH-WEST VIEW, SHOWING BILLIARD ROOM.

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DAVID J. BARRY
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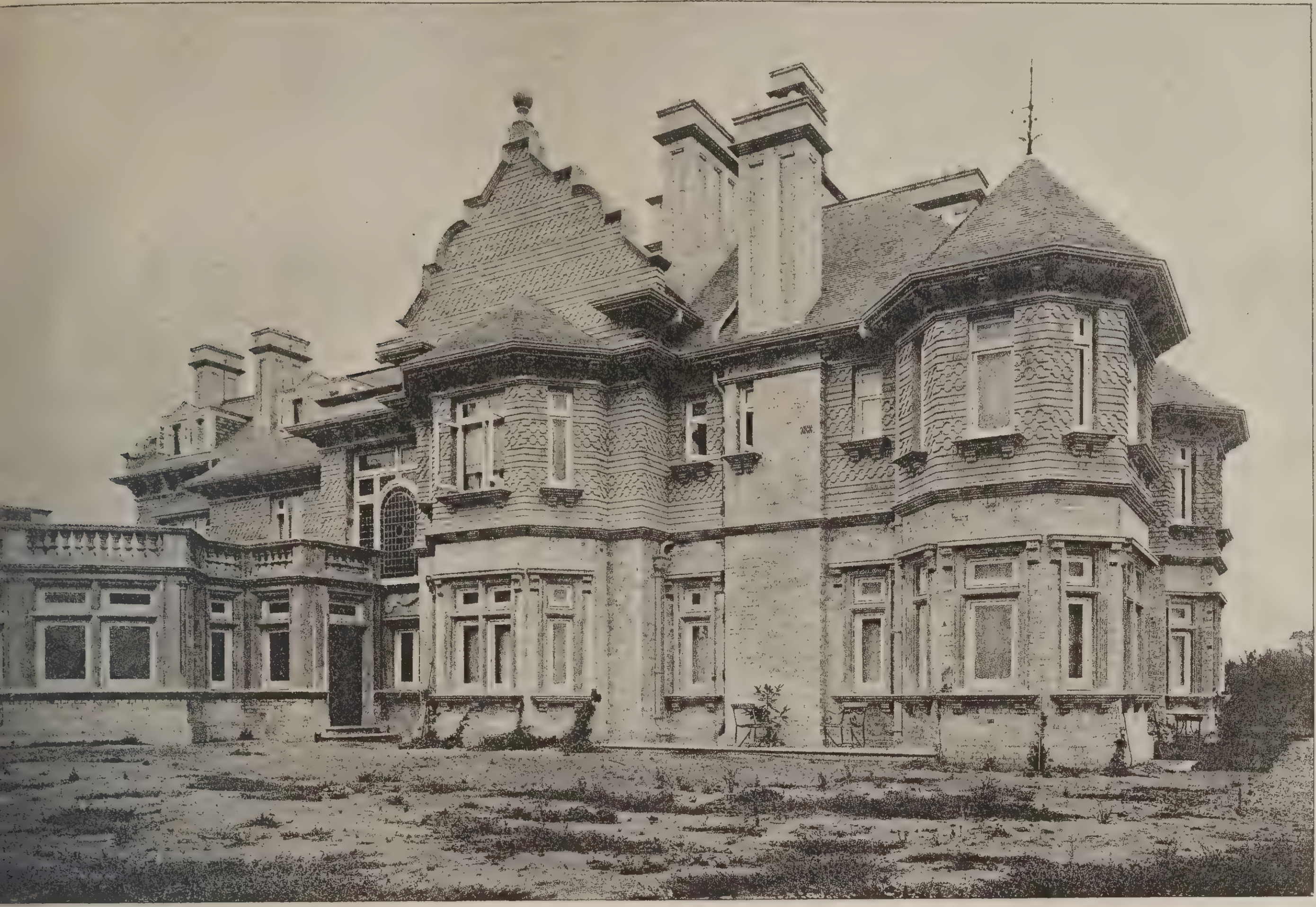
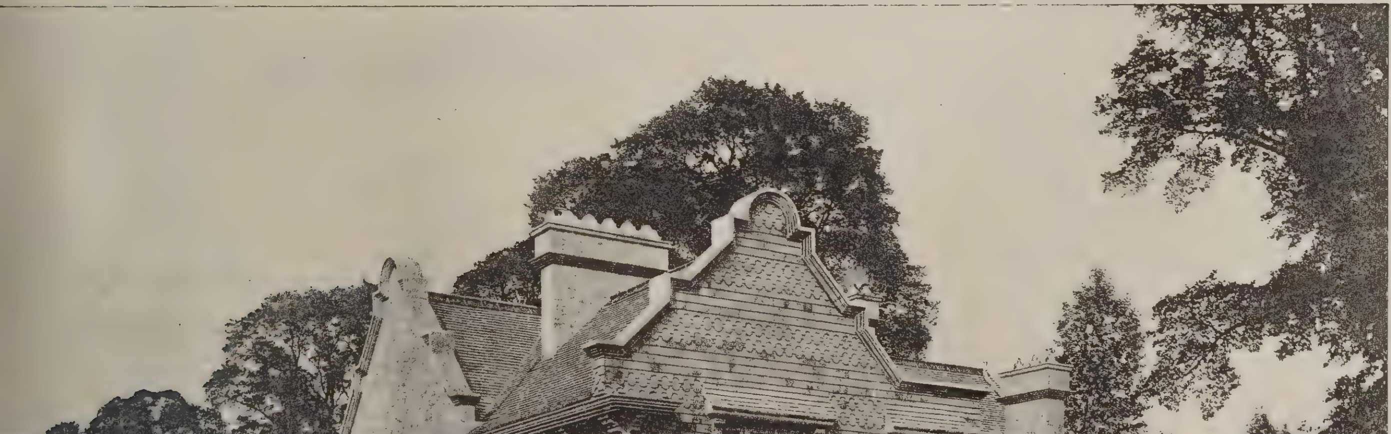


SOUTH-WEST VIEW.



STABLES AND LODGE.

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The Architect.

THE WEEK.

It is of importance in all building contracts in which penalty clauses are introduced to have a clear statement whether the architect's certificate is a condition precedent to the recovery of the amount arranged. In the case of an ordinary final certificate the architect is not supposed to deal with a breach of contract. A case relating to this point came on appeal before the Irish King's Bench Division as a court of appeal on Monday. The plaintiff, Mr. Good, a builder, had carried out works for a company, and 365*l.* was due. When the case came before Chief Baron Pallas, the defendants brought the amount into Court, but claimed 260*l.* as penalties for delay in completing the works. His lordship held that the defendants could not recover on their counterclaim without a certificate of the architect. Judgment was therefore entered for the plaintiff. The defendants appealed. On Monday their lordships affirmed the decision of the Chief Baron, and with costs.

The Cirque d'Eté in Paris was never a financial success, but few buildings for entertainment occupy a more attractive site. Standing in the Champs-Elysées, the surroundings recall country as well as town. It is no wonder many speculators have been anxious to get hold of so fascinating a spot. There is a possibility that it has been secured for an Academy of Art, or rather of artists, for which it is peculiarly suitable. M. Gérôme, the painter and sculptor, who is the prime mover in the project, has already met with such support from the principal artists in Paris, there is little doubt that the Academy will in due course be one of the institutions of France. M. Charles Girault has been entrusted with the preparation of the plans. Already several societies, managers of concerts and entertainments, and others have expressed a desire to be allowed leases of some of the halls which will be created. The Academy will be to some extent international, as foreign artists can be elected to share in its advantages.

It is commonly supposed that the village of Abusîr, in Egypt, is the site of the ancient Busiris, but later Egyptologists are of a different opinion. Near Abusîr five pyramids out of fourteen still survive, and several other remains are to be found. The Germans consider the place to be deserving of exploration, and two specialists, Herren Borchardt and Schafer, have been long engaged there. They were induced to undertake the work, of which the English Colonel Vise may be called the pioneer, not so much from his descriptions, but from an inscription which somehow found its way to the Berlin Museum. It related to a temple and an obelisk, and the explorers have found remains of both, which must have belonged to the fifth dynasty. The temple was one of those consecrated to Ra, or the sun-god. Evidently it was destroyed at a remote period, for among the débris coins have been found of Philip of Macedon and his son, Alexander the Great. Only the foundations of the obelisk are left. One of the discoveries is an alabaster altar. Several alabaster basins used in the temple were dug up. The temple and obelisk were enclosed by walls, and there was evidently a paved pathway which can be traced to the obelisk. It is therefore anticipated that, as it must have led to chambers under the ground, there may be treasures awaiting the explorers. Many fragments of architectural work have been removed from the ruins, and will be divided between the museum at Gizeh and the Berlin Museum.

All Londoners are aware of the great difference in width between Tottenham Court Road and its direct continuation, Hampstead Road. Where the two join, and where the Euston Road crosses, there is an inconvenience which in some provincial towns would be called a throttle-valve. Up and down and cross traffic have somehow to squeeze through a narrow and most inadequate space. To add to the confusion, this four-ways junction is the terminus of a line of tramways, and at the present time the changing of horses has to be performed on each journey. It seems remarkable that so awkward a spot should be allowed to remain, while places which have caused much less inconvenience have been transformed. As in everything else, custom has exercised authority, and the inhabitants of the street, like other people, have accepted the inconvenience as if it were irremediable. Human patience is not, however, eternal, and an outcry has been raised against such an obstacle to free traffic. A meeting of the inhabitants was held on Monday evening. From the letters which were read, it is evident that the effort to improve the place has received support from County Councillors and others in all parts of the Metropolis. If a circus arrangement could be adopted it would be most effective, and would improve much of the property around; but to the credit of the inhabitants it must be said they do not wish to add more than is necessary to the financial burden of the Metropolis. They are willing that the improvement should be confined to what is indispensable, and we hope their moderation will entitle them to prompt attention from the improvement committee of the London County Council.

There is no society which is more likely to popularise the archæology of London, its environs and neighbouring districts, than that known as the Upper Norwood Athenæum. The object of the members is the rational enjoyment of Saturday afternoons, but the papers that are read, as our readers must be aware, are excellent epitomes of what is known about many historic places. The papers in their printed form will be of much use to many readers who are unable to study the ponderous tomes known as county histories. In the volume dealing with the winter excursions of 1899 and 1900 the subjects treated are Christ's Hospital, St. Pancras and Battle Bridge, Lincoln's Inn, Loseley and Compton, Enfield, Rochford and Eastwood, Oxford, Shere, Syon Monastery and Syon House, Faversham, Betchworth and Brockham Green, Cobham Hall and Church, Loughton Camp and the place names of the counties. The authors do not pose as pedants, and consequently the little volume can be perused now with pleasure and is likely to be so hereafter.

The annual meeting of the trustees of the Manchester Infirmary was held on Friday last. Mr. Heywood, the chairman, in his address referred to the appointment of a committee at the last general meeting for the purpose of ascertaining whether it was necessary to adopt the pavilion system in the hospital proposed to be erected on the site of the existing Infirmary. After careful investigation this committee unanimously reported that a hospital suitable in every way could certainly be built on a plan other than the pavilion, and their report, in so far as it related to this portion of their inquiry, was approved and adopted by the board of management. The committee were also charged to ascertain whether the pavilion system is as absolutely necessary as up to the present time it has been thought to be. They sought the opinion of eleven members of the medical profession, chosen from those most eminent in the country, and most competent to give sound advice in such a matter. The verdict of the majority of these advisers was most distinct; it was that there was no need to feel bound to the pavilion principle. The Board, as directed by the second part of the resolution, are now taking steps to obtain plans and estimates, and they hope in due course to submit such designs to the trustees as will enable them to make choice and to decide that the Infirmary shall be rebuilt, and that it shall continue to stand on the spot where it has now stood for nearly 150 years. After holding office for twenty-five years Mr. Heywood has retired, and a vote of thanks was passed to him for his services as chairman of the board of management. He will be succeeded by Sir Frank Forbes Adam.

THE DE FALBE TAPESTRY CASE.

When in November last Mr. Justice Byrne decided that seven pieces of tapestry of an average value of 1,000*l.* each, which were fixed to the walls of a drawing-room of a mansion-house at Luton Hoo, were fixtures, and therefore were as much part of the estate as the ceiling, walls or floor, there was much consternation among people who while tenants of houses had expended large sums on decoration. In the application of art to buildings it is desirable to make it appear that the works were inevitable and not accidentally introduced. Mural decoration was among the earliest examples of the painter's art, and in Italy especially fresco was used. Easel pictures which could be hung on a nail and their position changed at will were a subsequent invention. Tapestries were generally adapted to panels, orders being given beforehand that they should be of determined dimensions. The idea of an inseparable connection between the wall and its adornment therefore long prevailed. It has even been suggested in modern times, when so many people have to depend on engravings, etchings or photographic reproductions of pictures, that each example should be hung in a recess made for it by the builder.

The custom has much to be said in its behalf. Every lover of art likes to see the old familiar faces looking on him from the positions they occupied when he first made their acquaintance. For that reason alterations of pictures in a public gallery generally give rise to general grumbling. The rearrangement of the Louvre is a case in point. Most amateurs in Paris would have been able a couple of years ago if their eyes were bandaged to walk straight to the position of any favourite picture in one of the galleries. For by experience the number of paces to be taken from one position to another had become almost an instinct. On that account the lending of a picture from the Louvre is not allowed, and the same rule has been accepted in most other important galleries.

It is easy, therefore, to imagine how changed would be the appearance of a drawing-room which for years had been decorated with seven pieces of tapestry when they had vanished. Visitors would not be able to trust their eyes, and any expression of regret could hardly fail to be sincere, for the removal of so many attractive objects must signify the annihilation of countless endearing associations. The law of England relating to property is essentially conservative, and endeavours to preserve as much as possible whatever is ancient with all the memories connected with it. For the people at heart resemble Goldsmith's "Mr. Hardcastle," who loved "everything that's old: old friends, old times, old manners, old books, old wine." It must be said that the law of fixtures favoured that view. For it was a common belief that fixtures put up by a tenant, if not removed during his term, became the landlord's property, and moreover it was understood that tapestry could not be removed if the operation involved the least risk to the walls.

The late Madame de Falbe was tenant for life of the mansion-house at Luton Hoo. She brought there ten pieces of tapestry, which were arranged as if in subjection to the law of fixtures. Three pieces were hung in the hall, but they were enclosed in oak frames which rested on an oak dado, and were secured by iron plates fixed on the frames and nailed or screwed to the wall in such a way that the frames did not touch the wall, but were a slight distance from it. The three pieces could therefore be as readily removed as if they were large pictures. In the drawing-room, on the contrary, the tapestries were attached to the walls by the intervention of thin wooden strips that were fastened to it by wire nails and screws. Afterwards white and gold mouldings were fixed to conceal the mode of attachment. The adjoining parts of the walls were worked up in colour so as to be in keeping with the tapestries. It is difficult to resist the belief that Madame de Falbe supposed at one time that the tapestries in the hall were to be removed, while those in the drawing-room were to be respected as fixtures.

On Madame de Falbe's death her executor claimed all the tapestries as her property, but the heir or remainder-man denied that assumption, and the case was accordingly brought before the Courts. Mr. Justice Byrne, relying on a judgment of Lord Romilly in D'Eyncourt *v.* Gregory and of the late Lord Justice Chitty in Norton *v.* Dashwood, decided that the tapestries in the hall were chattels, and formed part of the estate of Madame de Falbe because they were not hung in a way that would make them permanent additions to the building. The tapestries in the drawing-room were regarded in a different light. Mr. Justice Byrne came to the conclusion that from their importance as elements in the decoration of the drawing-room they had been annexed to the mansion-house, and therefore became part of the estate.

It was natural that there should be an outcry of alarm on his decision among people who, as we have said, expended large sums on decorations, and had fixed pictures regardless of law. But laws should be respected so long as they are not repealed. The enactments about fixtures may appear grievous to those who have only a tenant's interest in a building. But they will not be gainers by disregarding the law, and it is possible to possess a great variety of decorations which no one would question as being the absolute property of a tenant. Apparently it is not generally known that an architect or a surveyor must be as well acquainted with the law of fixtures as with any other part of his profession. It was not said that an architect was employed by Madame de Falbe, and the costly litigation would have been spared if one had been consulted. Dealers and frame-makers may be excellent in their own business, but they cannot be expected to understand the complexities by which removable and irremovable fixtures are distinguished.

An appeal was lodged against Mr. Justice Byrne's decision, and it was heard on the 7th inst. before Lords Justices Rigby, Vaughan Williams and Stirling. Their judgments are interesting, for they form additional examples of the power of evolution in the highest Courts. The practice now is to give a more liberal interpretation of the terms of an Act than formerly, so that freedom is slowly broadening from precedent to precedent. Time was, said Lord Justice Rigby, when whatever was affixed to the freehold went with the freehold, but that unbending rule was modified. Instances were to be found in the case of hangings and trade fixtures. But his lordship held that articles which were affixed for the purposes of ornamentation and not for adding value to the freehold should also be treated as exceptions. His lordship admitted that the tapestries in the drawing-room at Luton Hoo were as firmly fixed as if the person who put them up had intended them to remain in their positions for ever. But his lordship said that so much security was not of much importance, for the Court was not expected to inquire whether the article was fixed by screws of 2 inches or 1 inch in length, or whether twelve or six screws were used, or how far the nails or screws entered the mortar. The great question was whether the article was fixed for purposes of ornamentation, as then the exception applied. In the case of D'Eyncourt *v.* Gregory, which was relied on by the remainder-man, Lord Justice Rigby said he had great difficulty in following it, owing to Lord Romilly's inconclusive reasoning. That judge maintained that wall-papers and panellings could under no circumstances be removed, but the Lord Justice held that a tenant for life was at liberty to remove a paper if he did not like it, and to substitute another which he preferred, nor was he bound to wait until the paper was worn out. In Norton *v.* Dashwood the circumstances were different from the De Falbe case, for the tapestries had belonged to the house for generations. Lord Justice Rigby therefore held that the tapestries at Luton Hoo fell within the exception as to ornamental fixtures. Lord Justice Vaughan Williams said that there had been a continual relaxation of the old rigid rule, *Quidquid plantatur solo solo cedit.* Chattels might be so incorporated with the freehold as to become a part of it, but in this case nothing was done except what was necessary for the enjoyment of the tapestries, and when that fact was once admitted there was an end to the case. Lord Justice Stirling took a similar view.

The question however may arise hereafter, How is a person's meaning to be ascertained? We suppose if a jury of artists, or rather of decorators and architects, could be empanelled to determine whether the French tapestries in the drawing-room were intended to be a permanent addition to the mansion-house and to be an improvement to the freehold, the majority would be likely to decide in the affirmative. The care shown in the disposition was a proof of a deliberate purpose. Their lordships of the Court of Appeal have taken a different view. There is no reason, however, to doubt, if the case were carried to the House of Lords, that the judgment of Mr. Justice Byrne would not be upheld. All tenants of life are not necessarily selfish, and many people in all stations are anxious to impress a character on their houses which will be evidence of their temporary possession of them. That may have been the case with Madame de Falbe. The simplest way, however, for those who wish to avoid litigation and yet to place tapestry or paintings in positions and in the manner which the possessor would desire, would be by calling in an architect who is acquainted with difficulties attending the law of fixtures.

THE TRAGEDY OF PHIDIAS.

Historical painters are allowed much latitude in their creations. Representations by eye-witnesses of events like those which have appeared of the solemn pageant of the royal funeral were not attempted until modern times. To revive a scene of ancient or Mediæval history imagination has to be exercised, with the aid of any data which may be forthcoming in the form of portraits or archæological remains for the accessories. The liberty which is permitted to the painter can also be claimed by the writer. Historians who insist on official evidence for all their statements rarely produce an impressive work. In some cases this may be owing to the avoidance of what may be called the vivific varieties of evidence. According to Macaulay the success of Sir Walter Scott in his historical novels was owing to his employment of fragments of truth which professed historians had scornfully cast aside. By that means he was able in "Old Mortality" to supplement the descriptions of the Puritans given by Clarendon, and in the "Fortunes of Nigel" to present a more animated portrait of James I. than was attempted by Hume. The system of Scott is, however, more necessary when the subjects relate to Greece or Rome. There are, consequently, a great many works by archæologists which have been put into the forms of novels and dramas. One example is the Abbe Barthélemy's "Travels of Anacharsis." A copy was lent to Robert Burns, and in a letter which was sold on Saturday he described it as a book that bewitched him, and "an indispensable desideratum to a son of the Muses." For the Ayrshire poet the work, in spite of its defects, owing to its animated character, was more impressive than Archbishop Potter's "Archæologia Græca," or similar treatises. Works like the "Anacharsis" are beyond the talents of the ordinary littérateur, for they require the power of scholars who, in imagination, have long endeavoured to live in the periods described. It is about one of those attempts to revive some incidents of the past of which we propose to speak, viz. the closing scenes in the life of Phidias, which the late Charles Ernest Beulé, the French archæologist and statesman, presented in the form of dramatic dialogue.

The subject is alluring, for the relations between Pericles and Phidias are involved in much obscurity, and the circumstances of the sculptor's death are mysterious. Some accounts say he died respected by all at Elis, near Olympia, when he was between sixty and seventy years of age. Another version has it that when he was in exile at Elis he executed the famous statue, *Jupiter*; but as the inhabitants concluded that he had acted dishonestly by appropriating a part of the valuable materials, he was put to death.

It was not the first time that he was accused of a similar misdeed. Plutarch, who wrote about six hundred years after the death of the sculptor, relates that on the information of Menon, a workman, Phidias was charged with appropriating some of the gold assigned by the State for the statue of *Minerva* in the Parthenon. But as Pericles had foreseen the possibility of such an accusation, he advised Phidias to provide some means by which the gold could be removed and weighed. That test was applied and the charge was found to be groundless. But the sculptor was also accused of introducing a figure of himself in the *Battle of the Amazons*, which was represented on the shield of the goddess, and also with a like offence by representing Pericles as another combatant. Landor makes Aspasia say in one of her letters, "The architraves of the Parthenon are chiselled by the scholars of Phidias, who sometimes gave a portion of the design. It is reported that two of the figures bear the marks of the master's hand: he leaves it to the conjecture of future ages which they are." Phidias was thrown into prison, says Plutarch, where he died a natural death, though some say poison was given to him by his enemies, who were desirous of bringing Pericles to be suspected.

Philochorus, who is the authority for the statement that Phidias was killed by the Eleians, wrote his account four hundred and fifty years before Plutarch. The question then is, What authority is to be followed? Where did Phidias die? If in the gaol of Athens by poison, the event was likely to be turned to account by Aristophanes, who was not an admirer of Pericles. All he says about the sculptor is that peace had fled with Phidias, thus suggesting an exile. If Phidias was believed to have stolen gold and ivory, the Eleians were not likely to have preserved the house or studio of Phidias, or to have raised in it an altar dedicated to all the gods who were so worthily represented by the artist. Moreover, his sons were instituted as priests of Jupiter, and were known under the title of Phraiduntes, their principal duty being to watch over the statue of the god. In the time of Pausanias the house of Phidias, as well as the Phraiduntes, continued to exist. From these facts it would appear that Phidias did not come to a violent end in Athens or Elis. That is the conclusion of one of the latest inquirers, Herr Müller-Strubing. From what we have said, the position assumed by M. Beulé in his dramatic scenes will be, we hope, more easily understood.

In the first scene Phidias is represented as engaged on a portrait of Pericles, for the great artist was a master of painting as well as of sculpture and architecture. It is on the day prior to that when the question of the banishment of Thucydides, the representative of the aristocratic party, was to be decided. The Greek statesman says that sixteen years ago he and Phidias began their projects for the beautifying of Athens, and if his rival prevailed the works would be stopped. He points out how Phidias had formed a school of sculptors, of painters, and of architects, all of whom could have gained fortune in other cities, but who preferred to remain in poverty in Athens in order to have a share in works which would bring them eternal glory. From the day the first stone of the Parthenon was laid, calumnies and accusations were multiplied, and operations were suspended from time to time in order to institute inquiries into expenses. It was therefore time to put an end to the obstacles, and the real issue next day between Pericles and Thucydides would be whether the Parthenon designs were to be realised. While they are talking, Menon, who is a slave of Phidias, appears at the door. The artist orders him not to advance. The slave says he was despatched by Colotes, who was one of the sculptors at the Parthenon, to inquire whether Phidias would go to the Acropolis, and he is told that the artist will be there an hour before sunset.

After the man's departure from the studio Pericles declares his aversion to the slave, whose features express what is base, and who is in the hands of the enemies of Phidias, and serves them as a spy. Phidias says that he offered the man his liberty, but it was refused, and he does not like to sell him, for no master would be indulgent towards him. Pericles foretells how the slave will denounce the artist some day or other, but Phidias replies that only culpable men are denounced. He is indifferent what Menon may say or observe, for his evidence could not rejoice any of his foes. Alas! observes Pericles, you little know the perversity of men. My art, says Phidias, always taught me to see things more beautiful than they are. Another visitor of a different character next arrives in the person of Aspasia, who had come to see the portrait of Pericles. The statesman was depicted in one of those oratorical ecstasies when the people compared him to Jupiter, and surnamed him the Olympian. Aspasia recognises at a glance the suitability of the treatment, for, as she remarks, Art consists in painting men, not as they are when engaged in ordinary circumstances, but as they appear at the moment of a great action. Phidias follows this up by pointing out that if he avoided representing the excessive length of the head of Pericles he was justified, as he had the right to correct nature, for when he sculptured the celestial Venus he was not faithful to the contours of his models, and he would rather cut off his hand than represent Vulcan hobbling, Philoctetes with an open wound, Œdipus with his empty eye-sockets, or Hecuba furrowed with wrinkles. Some day perhaps, he added, a servile reproduction of reality would be demanded; then artists deserved to be pitied, for their duty should be to awaken in souls some remembrance of their celestial origin, and to purify them by the spectacle of beauty. Pericles has other duties, and he leaves the studio as Elphinice, the sister of his great rival, Cimon, enters. The conversation then assumes the form of a contrast between past and present. Elphinice relates the magnificence with which Polygnotus was clad, and from his grandeur and riches he might be taken for a Persian ambassador. Phidias, on the contrary, was a savage, a solitary, and an enemy of all pleasures. Aspasia utilises the occasion to make Cimon's sister believe how much Pericles admires her, and in the end they both go out to canvass for votes in order to promote the banishment of Thucydides.

Left to himself, Phidias soliloquises on his present condition and prospects. He has sacrificed love, society, everything to his passion for art, his country and glory. But after fifty years of life he has not yet attained his aim. Then he remembers how a century is needed for an oak to reach its full height, and yet it can be overthrown in a moment. If Pericles should fail, Phidias would be lost; if Pericles succeeded, would he remain faithful to his friend? Both agreed in their ambition to make Athens the most beautiful of cities, and that her artists should be among the foremost in Greece. But would he support the sculptor against powerful priests and a superstitious people? So far, Phidias said, he had departed little from the types approved by tradition for Minerva, Mercury, Apollo and Æsculapius. But instead of gods he wished to display the only God whose name the philosophers were afraid to mention through fear of death, except to a few adepts, but whose divinity he would suggest to the crowd. What a glory it would be, he said, to reveal to the Greeks a type they would never forget, and which by future ages would be accepted with a purified religion. Exile or death could not prevent him from the attempt to embody his thought. Then, addressing the clay model of his *Minerva*, he said the goddess was for him the manifestation of divine intelligence, that he would make the statue so beautiful, so colossal, and employ such precious materials that not even his foes would dare to touch it. Later, he would venture to think of representing Zeus himself.

We are next transported to the plateau of the Acropolis. The Parthenon is being constructed; temporary buildings are around, which have been put up as studios for the sculptors. The artists discuss the work. Some belonging to the ancient school are not altogether satisfied with the new system and the restrictions imposed upon them. The Æginetan sculpture is praised and compared to a chant from the "Iliad." One says that Alcamenes, who was present, would be a better director than Phidias. If Pericles were exiled the next day Phidias would have to follow him, and then Alcamenes would be entrusted with the construction of the colossal figure of *Minerva*. He would have all the ivory and the gold, and what an occasion to obtain riches and eternal renown. Then, too, continued Nesiotes, for he was the orator, they would have no fear of the wrath of the gods. Their forefathers adored stones fallen from Heaven; the less resemblance there was to man, the greater the divinity. The simplicity of the forms, the stiffness of the gesture, the adhering draperies, the smiling countenances, the symbolic colours, all imparted respect. To change the figures consecrated by religion was to destroy religion itself. Alcamenes remonstrates, for he knows that the discussion means how are the votes of the sculptors to be given? Alcamenes, says Nesiotes, is only as crafty as Ulysses. They may all have sold their hands to Pericles, but neither their tongues nor their votes. He intended to vote against Pericles; Alcamenes concealed how his would be cast; there was all the difference between them. In another group of artists working in gold and ivory similar questions arise. But among the younger school there is a more generous feeling towards Phidias and Pericles.

While the discussion is in progress Phidias enters, accompanied by Ictinus, who informs him that the next day the works will be stopped in order that all may vote. Phidias asks, Will they be favourable to Pericles? Ictinus says he believes so, and that there are about five hundred voters. Then Ictinus says that every block of marble in which a vein or stain could be seen had been rejected. But Ictinus adds that he is not quite assured of the effect of making all the lines curved, and he fears that they may excite the criticism of rivals and the raillery of the Athenians. Phidias explains that the right line does not exist in nature. Trees have round surfaces, the mountains are curved, and the sea forms a circle before the eye. There is no reality in the right line; it is simply a fictitious thing that geometricians have traced on their slates and that architects have applied to edifices. If the crowd cannot comprehend they will at least feel the beauty of curved lines. Like the human body, a building is an organism which should have its own constitution, its laws and its proportions, and the architect alone can give it the breath of life.

From the architect Phidias turns to his young disciples, and, in proposing corrections of their work, he describes some of his own principles of art. Simplicity and breadth were the qualities he sought after. If you want, he said to one of them, to show a man more beautiful than he is, make him more simple; you cannot struggle with nature." Some horses were censured as being too detailed, and the sculptor was advised to treat them more largely, to dispose of them in masses. The *Theseus* of Pæonios on that account was praised for its excellence, and as a model which should be followed. The young sculptors were allowed to discuss principles frankly. Some of them had evidently been listening to the theorists, and were puzzled by the æsthetics; but against such teachers they were warned. The true artist, Phidias continued, is nourished by the sentiment of beauty, the respect of the masters, labour and silence. Beauty is not to be discussed, but felt. Who is it that in order to breathe has any need to study the air which fills his lungs?

The next scene occurs on the important day after the struggle between the two political parties had taken place. The friends of Phidias were assembled in his house; they were able to satisfy themselves that 9,000 votes had been given in favour of the banishment of Thucydides. He told the artists they might all resume work; marble, ivory, ebony, cedar, gold and precious stones awaited them. Ictinus could complete the Parthenon, and demonstrate to the Dorians there were beauties in their order which were unknown to the originators. There were no longer any obstacles to progress; there were no tyrants to impose caprices. They were allowed to be directors to themselves; the treasury was open to them. Let all remember that the glory of Athens was confided to their care, for if one day the city should succumb the Parthenon would remain to testify to new races that the power of Athens was no fable, nor its genius an illusion. The barbarians would also learn that there is beauty which is immortal; which may become mutilated, but can never grow old.

After an interval of fifteen years we are supposed to be in one of the porticoes of Athens, which is ornamented with paintings. The rancour against Phidias is stronger than ever. The High Priest of Neptune, with Cleon and Simmias are there, besides several citizens. Simmias has just returned from Olympia, and he assures them that the *Jupiter* of Phidias surpasses any of the statues which they possess. All the treasure expended in Athens by Phidias was of little avail, since the glory of the city had succumbed to Elis. It was fortunate, however, that the sculptor was their prisoner. It was then arranged that the priest would indict him as the enemy of the gods, while Cleon would charge him with being an enemy of the country, and Simmias would accuse him of theft. Menon enters the portico and has a private conversation with the priest. The slave fears that Phidias will be acquitted. The High Priest then instructs Menon after the trial to seat himself beside the altar in the Pnyx, to claim protection and then to accuse Phidias with impiety.

The crime is to have degraded the statue of *Minerva* by introducing his own portrait and one of PERICLES. MENON doubts whether an artist who has adorned Athens with so many chefs-d'œuvre will be punished. The High Priest replies by saying that the Athenians are proud of two things—their ingratitude towards men and their piety towards the gods. In no other country were illustrious citizens so badly rewarded or offences against religion more severely punished. To break off a branch in one of the sacred woods, or to wound one of the animals who lived about the temples, was to incur the punishment of death. A child who had picked up a leaf of gold that had fallen from the crown of DIANA was handed over for punishment. But the practical MENON wishes for certainty which will be independent of laws or priests, and he therefore buys a phial of slowly-acting poison from a Phœnician dealer.

The scene changes to the prison of PHIDIAS. He is visited by PERICLES who, while sympathising with him, points out that although the attack is made on the sculptor it is in the expectation of wounding himself. The statesman seems unable to understand why PHIDIAS, who was tranquil and honoured at Olympia, should not wish to stay there. The explanation of the artist is that he wished to see Athens before death. PERICLES declares that he is resolved to save his friend, and in order to distract the attention of his enemies he proposes at once to make war on Sparta. But meantime, to meet the charge of theft, it will be necessary to remove the vestments from the goddess in order to have them weighed. PHIDIAS says that COLOTES had aided in the construction of the statue of *Minerva*, and as he knew all the secrets there would be no difficulty. When PERICLES leaves, MENON enters with a repast consisting of some figs and wine. PHIDIAS no sooner drinks than he remarks the bitter taste, which is owing to the poison. When left alone the sculptor suspects the crime, but he is pleased rather than angered, for the reputation of Athens will remain pure.

Three days later SOCRATES enters the cell of PHIDIAS. Partly from his desire to know everything, partly from a presentiment that he would one day be in the same position, the philosopher is curious to see how a man conducts himself when death is approaching. It is enough to say that PHIDIAS shows by his words and conduct how little terror a virtuous man can find in dissolution. Then some of the disciples of PHIDIAS come, and such a conversation takes place as might have occurred in the timber workshops beside the Parthenon. The last advice of the great artist to his disciples was to leave to the Dorians figures of athletes, portraits and all servile reproductions of nature. But it was the duty of the Athenians to follow the ideal images which the soul bore within it as if they were souvenirs of pre-existence, and under the form of the gods to express beauty in its most diverse forms. The last scene of all is another visit from PERICLES, who grieves the sculptor by his declaration that there will be many funeral victims offered, and PHIDIAS expires while PERICLES says that the good genius of the Athenians has descended with him into the tomb.

BEULÉ's antique drama, which he called a simple literary recreation, is, it will be seen, consistent throughout. PLUTARCH is followed, and consequently the guilt which must always be attached to the death of PHIDIAS falls on Athens. But, after all, the fickle people are shown to be only indirectly responsible. BEULÉ was well acquainted with the mysteries of politics, and therefore showed how selfish may be the aims of professional patriots. The genuine patriot is the great sculptor, and beside him the men who held political power appear almost as beings of another species. The drama is therefore not merely an attempt to resuscitate history; it is a vindication of art and artists.

The Metropolitan Asylums Board have accepted the tender of Mr. C. Wall, of Chelsea, for the erection of White Oak School, Swanley, at the cost of 112,324*l*., in accordance with the plans and specifications prepared by Messrs. Newman & Newman, architects. The architects' revised estimate for the work was 115,000*l*. The works committee report that they estimate the total cost of erecting, fitting-up and furnishing the school, including the purchase of land, architects' charges, quantity surveyor's charges, salary of clerk of works and contingencies at 137,944*l*.

LINLITHGOW PALACE.

THE suggestion of Lord Rosebery, that the restoration of Linlithgow Palace should be the Scottish memorial of Queen Victoria, has drawn increased attention to the old building. The work is estimated to cost between 40,000*l*. and 50,000*l*. The *Scotsman* in an article on the palace says :—

> Lithgow, whose palyce of plesance,
> Micht be ane pattern in Portugall or France.

Thus Sir David Lindsay, in his "Farewell of the Papingo," refers to the ancient palace of Linlithgow, and it was doubtless Sir David's admiration, here expressed, which led Sir Walter Scott to put into his mouth the better-known lines in the fourth canto of "Marmion" :—

> Of all the palaces so fair,
> Built for the royal dwelling,
> In Scotland far beyond compare,
> Linlithgow is excelling ;
> And in its park, in jovial June,
> How sweet the merry linnet's tune,
> How blithe the blackbird's lay !
>
> The wild buck bells from ferny brake,
> The coot dives merry on the lake ;
> The saddest heart might pleasure take
> To see all nature gay.

Sir David of The Mount was not alone in his admiration. According to Pitscottie, Mary of Guise, James V.'s queen, on beholding Linlithgow declared that she had never seen a more princely palace. The language was perhaps a little exaggerated, and may have been partly due to French politeness; but there appears to be no doubt that Mary, as well as some of her predecessors, had a special liking for Linlithgow. A century and a half later we find John Ray, the botanist, who visited Linlithgow, alluding to the palace somewhat patronisingly as "a very good house," qualifying this, however, by the addition—"as houses go in Scotland." Arthur Johnston, in his "Carmen de Limnucho," was much more enthusiastic in his praise of "renowned Linlithgow" :—

> Nobile Limnuchum est, Pario de marmore templum
> Hic nitet, impensæ non mediocris opus.

Linlithgow's connection with royalty goes back to a much earlier period than the date of even the oldest part of the present palace—or what remains of it. The promontory on which stand the picturesque ruins would doubtless suggest itself at a very early date as a natural position for a stronghold. There is said to have been a Roman station here, but the evidence of this is not altogether convincing. It is pretty certain, however, that the site has been occupied successively by forts, castles and palaces for well-nigh 800 years, and that for several centuries royalty resided here. David I., that "sair sanct for the Crown," had here a castle and a grange—in a charter of Holyrood special mention is made of his castle at "Linlithcu." During the twelfth and thirteenth centuries there are several charters by the Scottish kings of that period which are dated at Linlithgow. Edward I., according to Fordun, built a fort at Linlithgow in 1300, and it is certain that he spent the Christmas of 1301 here, and also the early part of 1302. Here, on January 26, 1302, he concluded a treaty, or truce, with the Scots. In September 1305 Peter Luband, a Gascoigne knight, was appointed by Edward to the office of Keeper of Linlithgow Castle, and this office he appears to have held till 1313, when the castle was surprised and captured by the Scots, by the famous stratagem of William Binnock, or Binnie, or Binny—the brave husbandman described by Barbour as "a stout carle and a sture, and of himself dour and hardy." The castle was then demolished by Bruce in conformity with his usual policy, but later another and finer structure was erected on the same site.

The oldest part of the present ruins are believed to date from the period of the earlier Jameses. Several of those kings made additions to and alterations on the palace. It was very much improved by James V., but the alteration by that monarch of the approach can scarcely be reckoned among his improvements. The original approach was from the east, by a fine avenue of trees. Why the approach was altered to the present one, from the town, is difficult to understand. It can hardly have been on the ground of amenity. By the time of James VI. part of the palace had fallen into disrepair, and King Jamie had it rebuilt. The good he did was seldom done by stealth, and that part of the palace bears evidence of his desire to preserve his own name as well as the building.

James I. minted some of his coins at Linlithgow, but there is no evidence of his having resided here. The palace appears to have been settled by his successors upon their respective queens as a jointure house. It is named in several of their marriage settlements. James II. settled the lordship of Linlithgow and other lands on Mary of Gueldres on the occasion of their marriage. When James III. married Margaret of Denmark he settled on her as her dower, in case of his demise, the lordship of Linlithgow, with the palace, the lake and the park. On the marriage of his son, James IV., to Margaret of England there was conveyed to her as dower the whole lordship of Linlithgow, with the palace, its jurisdiction and privileges, and her connection with the palace is commemorated by the tradition of "Queen Margaret's Bower," in which she

> Lonely sat, and wept the weary hour,

looking for the return of him who lay stark and cold on Flodden's field.

Linlithgow Palace in those days was the scene of royal rejoicing and of royal sorrow, of pleasure and of tumult. Here Sir David Lindsay's "Satire of the Three Estates" was performed before James V. and his queen, Mary of Guise. Here also an attempt was made by Sir James Hamilton to assassinate James. The palace, as has already been observed, was a favourite residence of Mary of Guise. Here Mary, Queen of Scots, was born, as had also been her father—two of the best-known events, perhaps, in the history of Linlithgow Palace. A quaint story is told by Sir Ralph Sadler, the English ambassador, concerning the baby princess: It had been reported that she was a puny, sickly child, and not likely to live; and Sir Ralph had been instructed by Queen Elizabeth, who was no doubt anxious regarding the succession to the English throne, to make inquiries. Mary of Guise seems to have been indignant, and caused the babe to be unswaddled in presence of the English ambassador, who gravely reported this fact to Queen Elizabeth, with his own opinion that the princess was a fine, healthy infant. The princess had smallpox at Linlithgow, but the case was mild and no marks were left. After her return from France, Queen Mary occasionally resided at the palace, and Linlithgow was for a time a headquarters of her party. It was when returning from Linlithgow to Edinburgh that she was seized and carried off by Bothwell—whether with her own consent, who shall say?

In 1592 the Scottish Parliament settled the barony and lands of Linlithgow, with the palace, &c., upon Anne of Denmark. When owing to the tumults in Edinburgh in 1596 James VI. had to fly from his capital, he found refuge in Linlithgow Palace with his queen and his Court, the Privy Council and the Court of Session.

After the Union of the Crowns Linlithgow fell from its high estate. It ceased to be a royal residence, although it seems to have been cared for and to have been occupied down till its destruction in 1746. It was visited by Charles I. when he made his excursion from Edinburgh in 1633, and the canny bailies and town councillors of that day appear to have been seriously exercised as to suitably entertaining His Majesty, and to have been very anxious to do him all the honour possible, and at the same time to do credit to themselves and their country before any of the English nobility who might be with the king. To this feeling was no doubt due the following order:—

"June 7. The quhilk day, In respect that his majestie is to come to this brugh, And considering how undecent it is to weir plaidis and blew bannetis, Thairfor it is statuitt and ordanit That no person athir in brugh or landwart weir ony bannetis nor plaidis, during his Majesties remaining in this his ancient kingdome; And that none resort in the towne with bannettis or plaidis under paine of confiscation of thair plaidis and bannettis, and punichment of thair personne."

Oliver Cromwell is said to have fortified the palace to some extent. It is at least certain that he had a small garrison here. We find in the accounts of the English army for the three months commencing January 10, 1652, a couple of entries under the heading "Garrisons established":—

Linlithgowe—	£ s. d.	
Governour . . .	025 04 00	
Fire and Candle . .	008 08 00	
		033 12 00

And again, under the heading of "Officers in garrisons not established," we find an entry:—

Linlithgowe—	
Storekeeper . . .	04 04 00

Five years later General Monk, in a letter to Cromwell making suggestions as to the forces in Scotland, proposed that at Linlithgow there should be "a foote companie and 30 horse."

In 1745 Prince Charles Edward visited Linlithgow. He reached and took possession of the town about six o'clock on the morning of Sunday, September 15, and spent the day quietly at the palace. Here he was entertained by the lady of the governor, Mrs. Glen Gordon, an ardent Jacobite, who caused the fountain in the quadrangle to run wine in honour of the occasion. The Prince, however, did not sleep in the palace, but in a house to the east of the town. A few months later, on February 1, 1746, the palace was burned through the carelessness of Hawley's Dragoons, who were quartered in it. The assertion has been made that the destruction was intentional; but there is no evidence of this, and, in fact, the evidence is all the other way. At the same time Hawley appears to have been very unconcerned about the matter, if, indeed, he was not rather pleased than otherwise. He is said to have been warned by Mrs. Glen Gordon, who was alarmed by the large fires in the Parliament Hall (as it is popularly although erroneously termed). But he refused to interfere with his men. In his encounter with the lady the latter appears to have had the best of it, as well as the last word. She closed the interview with the remark that she could run from fire as fast as he could—an obvious allusion to what had occurred at Falkirk. It is said that after the conflagration broke out Hawley sent word to the Provost, who replied that those who lit the fire could put it out. All concerned appear to have taken the matter very coolly.

And so Linlithgow Palace, "far beyond compare," became what it is—a picturesque ruin. In its present condition it is, as Lord Rosebery remarked, "almost a reproach to our nation." Few places in Scotland have more interesting historical associations, few are hallowed by so many great and national traditions. None with associations and traditions approaching those of Linlithgow is in such melancholy condition. Linlithgow Palace restored would certainly be a noble memorial to Queen Victoria.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

An ordinary meeting was held on the 6th inst. at No. 32 Sackville Street, when Mr. C. H. Compton, vice-president, occupied the chair. The business of the evening was the reception of a paper by the Rev. C. H. Evelyn White, F.S.A., on some recently discovered earthworks, the supposed site of a Roman encampment, at Cottenham, a village lying about six miles north of Cambridge. A large plan of the earthworks was exhibited, and smaller copies were distributed among the members present. From this plan it appears that the works lie by the side of the Car Dyke, and are intersected by the Setchel Drove. They spread over two fields, and the main portion consists of a rampart of a double chevron shape, with a ditch on each side, while traces of smaller works occur. The trenches vary in depth from 6 inches to 2 feet, but must originally have been much deeper, though no signs of foundations have been met with. Outside the area of the plan there are also remains of geometrically-formed entrenchments, so that a very large tract of land is covered by what the author considered as incontestable evidence of some very early occupation either for defensive purposes or for habitation. Mr. White said that the object of his paper was limited to presenting a notice of these remarkable works, and he wished to leave the decision as to their character to experts. But this much might be said, that there were ancient earthworks hitherto unnoticed, Roman pottery in abundance on all sides, surrounded by lines of British and Roman communications, and near to an ancient waterway that afforded access to the larger rivers in ancient times. The great Fen level certainly might be credited with a line of strongly entrenched posts, stretching from the Castle Hill, at Cambridge, to the promontory at Earith, known as the "Bulwarks." In the parish of Cottenham a fine Roman bust, probably of Marcus Aurelius, had been dug up, and at Earith a bronze statuette, now in the British Museum, had been discovered, and between the two parishes Roman coins and pottery had been unearthed. Mr. White called attention to a large number of fragments of pottery on the table, including Samian, Upchurch and red ware, among which were pieces with various forms of decoration, two bearing the potter's mark. Coarse specimens of a kind of conglomerate, supposed to be fragments of local manufacture, were also exhibited. There was a general absence of articles of personal adornment, the only exception being a piece of bone pin, ornamented with a series of notches, and, the author believed, resembling one figured in Keller's "Lake Dwellings." The question to be decided was the character of the works. Did they enclose an ancient British homestead? Were they British military works, or must the members be satisfied with the suggestion in the title, "Supposed site of Roman encampment"? Mr. White thought the Association would be doing excellent service if its members would do their best to find a solution

At the conclusion of the paper Mr. Bull, a resident in the parish, to whom the discovery of the earthworks is due, gave some additional details as to the site and neighbourhood.

Mr. I. C. Gould said the chevron form of the works was quite new to him, but there could be no doubt from the character of the pottery exhibited that the place had been occupied so late as the fourth century.

The Rev. H. J. Dukinfield Astley spoke of the unique shape of the structure, the British fortifications being round or oval, while those of the Romans were rectangular.

The suggestion was made that as no systematic explorations had been carried out the rampart should be cut through, and this will probably be done

The proceedings closed with a vote of thanks to the Rev. Evelyn White for his interesting paper.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE monthly meeting of the Society of Antiquaries of Scotland was held in the library at the Museum, Queen Street, Edinburgh, on Monday evening, Sir Thomas Gibson-Carmichael, vice-president, presiding.

In the first paper, Mr. Andrew W. Lyons, architect, gave a detailed description of the painted ceiling in the Montgomery aisle of the old church at Largs, of which he had presented to the museum a drawing made to scale in 1897. The roof, which is about 29 feet by 24 feet, is barrel vaulted and lined with wood, painted on the under faces of the boards with a most elaborate and beautifully designed and executed series of subjects, historical, emblematical or heraldic, arranged in forty-one compartments, divided from each other by imitation mouldings painted in monochrome. The central panel contains a mantled escutcheon, charged with the quartered armorial bearings of Montgomery and Eglinton, impaled with those of Douglas and Mar, surmounted by a knight's helmet, crest and motto. Beneath the coat of arms is an oblong cartouche, with the names of Sir Robert Montgomery and Dame Margaret Douglas, and suspended from it a circular tablet with the date 1638. In another compartment are four shields with the arms of Eglinton, Semple, Drumlanrig and Lochinvar. Others have emblematical representations of the virtues, the signs of the zodiac and the seasons, with landscapes of the surrounding district. One of the larger panels has a representation of the Temptation in the Garden of Eden, and the other has what is believed to be a historical event connected with the Montgomery family—the tragic death of the wife of Sir Robert Montgomery from the kick of a horse in 1624. In the same panel is the signature of the artist, Stalker, of whom nothing is known, and the date 1638. The ceiling, which is most elaborate, well-proportioned and beautiful in design, may fairly claim to be the best example of that early seventeenth-century tempera decorative painting now extant in Scotland.

In the next paper, Dr. Joseph Anderson gave an account of a remarkable group of brochs in the district of Keiss, Caithness, recently excavated by Sir Francis Tress Barry, Bart., M.P., Keiss Castle. Caithness is exceptionally rich in prehistoric remains, and of these the brochs are the most abundant, although until recently very little was known about them. The first broch systematically explored in Caithness was that of Kettleburn, near Wick, which was described to the Society in 1854 by the late Alexander Henry Rhind of Sibster, the founder of the Rhind Lectureship in archæology in connection with the Society. The records of three others explored in 1866 and one in 1891 are also published in the Society's Proceedings To these five, Sir Francis Barry has added nine, thus making a total of fourteen brochs now explored in Caithness Comparing the results of these and other excavations with what is known of the brochs from an examination of the better-preserved examples, such as those of Mousa, Glenelg and Carloway, it was seen that this class of ancient stronghold was a typical structure of great importance and significance in the archæology of Scotland, forming a more prominent feature in the aspect of the country and of the civilisation of the time than even the Mediæval castles, which, in the northern districts at least, they far outnumbered, while each of them was on an average quite as large as a Mediæval keep. They were huge, dry-built, circular towers, rising on a base of about 60 feet in diameter to a height of about 50 feet. In its elevation the tower was a cylinder, having a thickness of wall of from 12 to 15 feet, surrounding an open interior court of about 30 feet in diameter, into which all the windows looked, so that the only opening on the outside was the doorway through the wall of the cylinder, giving access to the interior court. From this court another door gave access to a stairway leading up to a series of galleries, running completely round in the thickness of the wall one above another, and lighted by ranges of windows opening into the court. The function of these peculiar structures seems to have been to provide a sufficient number of secure refuges for the people and their cattle and other possessions from temporary danger threatened by incursions of predatory bands, and no type of structure more admirably suited for passive defence was ever devised. The rounded or conical grass-covered mounds which now conceal their remains are thickly scattered over the areas of the best arable land and up the river valleys. They are surprisingly numerous in the northern counties, upwards of eighty having been enumerated in Caithness, sixty in Sutherland, seventy in Orkney and seventy-five in Shetland. Though much fewer in the southern counties, they range from Shetland to Berwickshire, and thus form a feature in the prehistoric aspect of the country all the more remarkable that the type is peculiar to Scotland, not a single example having ever been found elsewhere. After describing in detail the special features and contents of the group of brochs disclosed by Sir Francis Barry's operations, of which an extensive series of limelight views were shown, Dr. Anderson concluded with some remarks on the period of the brochs, which he regarded as proceeding from the late Celtic civilisation prevailing in Britain for some centuries prior to the Roman invasion.

GLASGOW ARCHITECTURAL CRAFTSMEN'S SOCIETY.

THE usual meeting of the Society was held on Friday, the 8th inst., Mr. Alex. Davie, I.M, presiding The subject for the consideration of the members was "Wall Coverings," three lecturers reading papers thereon. Mr Colin Sinclair, hon. secretary, treated the subject of "Limes" and their application to wall surfaces, drawing special attention to the successful use of hydraulic lime plaster, as perfected by Mr. Alex. McAra, Glasgow, by his process in the preparation of Arden lime for his purpose. Mr. Robert W. Horn, A.R.I.B A., confined his remarks to the use of "Cements" as plasters, and made clear in an interesting manner the various uses of "Petrifite" in its numerous functions. In the third branch of the subject Mr. David Jackson, modeller, lectured on "Patent Plasters," speaking of such forms as Keene's, Robinson's and Parian cements, adamant, &c, and gave some useful information with regard to fibre plaster and the casting of such, with special reference to its use in the Glasgow International Exhibition.

STATUE OF QUEEN VICTORIA, HOVE.

A BRONZE statue of Queen Victoria, designed by Mr. Brock, R.A., was unveiled on Saturday in Grand Avenue, Hove, by the mayoress (Mrs. Colman), in the presence of a large assembly. The statue was subscribed for by residents in Hove as a memorial of the late Sovereign's reign. It was hoped that a member of the Royal Family would unveil it, but after the death of the Queen this hope was abandoned, and the statue was accordingly unveiled with the least possible ceremony and without any popular demonstrations. The statue, which is 13 feet in height, faces the sea. Around the angles of the plinth are bronze festoons of laurel, and in front a cartouche bearing the letters V.R.I. The pedestal, 14 feet in height, is of grey Aberdeen granite, and around the four sides of the necking are the following:—"VICTORIA DEI GRA—BRITANNIAR REGINA—FIDEI DEFENSOR—IND IMPERATRIX"; and a bronze emblematic panel, in bas-relief, is in each of the four sides of the pedestal. The front panel represents Empire; in the centre is a female figure, seated, holding with her right hand a pair of scales, and in her left an orb; on her right hand stand figures representing Canada and Australia, while on her left are figures typical of India and Africa. A female figure also occupies the central position of the back panel; the figure is seated embracing a child, who is sitting on an anvil with an electrical machine in his hands; behind him stands a youth holding a piece of machinery; on the left of the female figure is a boy with palette and brush, at his feet a mallet, chisel and compasses. The right-hand panel is a symbolical group of education—a mother with a child at her side, a book upon her knees, which she is teaching the child to read; standing behind them engaged in study are three youthful figures. The left-hand panel represents commerce; in the foreground kneels an Eastern trader with his wares spread out before him, two merchants standing by; behind is a figure with a vase held in the hands, while in the background the sea is visible, a galley upon it with sails set Under the front panel is an incised inscription recording that the statue was erected to the honour of Queen Victoria, and under the back panel are cut the words:—"Born 24 May, 1819 Died January 22, 1901." The unveiling ceremony only lasted a few minutes. Mr. Woodruff (a former mayor of Hove), addressing the present mayor, said he was authorised by resolution of the executive committee which was appointed at a public meeting of the inhabitants to erect the monument, to present it to the corporation of the borough, praying that they and their successors would ever protect and preserve the same to the memory of their late well-beloved Sovereign, Queen Victoria. The mayor (Mr. Colman) said he accepted, on behalf of the Corporation of Hove, that magnificent statue of Queen Victoria, a lasting token of the generosity and loyalty of the subscribers. He pledged himself, and also his successors, to love, honour and protect it, as a sacred memento of a great monarch, a kind friend and, above all, a good woman.

NOTES AND COMMENTS.

The art of the sculptor is not too liberally patronised in this country. There is, consequently, almost heroic self-denial when we find so prominent an artist as Mr. Alfred Gilbert, R.A., recommending that buildings rather than statues, busts and tablets should be adopted as memorials of Queen Victoria. The statues, busts and tablets can be easily obtained, he says, at any time and at a moderate cost. But he asks whether, "at a moment like this present, when the whole world, together with our great nation, mourns the loss of the great benefactress, would it not be the suitable moment to consider how best to perpetuate her memory by giving a practical and lasting expression to the womanly attributes which were so strongly marked in the late Queen?" Mr. Gilbert's suggestion is for the establishment, "by universal subscription, of a grand maternity hospital and public nursery for the use of the poor, having its headquarters in London and branches in every city of the United Kingdom and Empire." This opinion, coming from a sculptor who has produced an interesting statue of the Queen, is more deserving of consideration than the majority of suggestions which are now put forth. There is no question that the hospital would be an appropriate memorial, and it would be, moreover, of public utility. In connection with the subject it should be mentioned that His Majesty has suggested that a small committee should be formed from members of the present and past Governments to consider the matter with a view of, if possible, deciding what form the memorial should take, and nominating a representative committee to further mature and carry out the scheme.

The excavations in Pompeii have been carried on steadily during the past year on the northern side of the town, but nothing remarkable has been found except mural paintings, some of which are of great beauty. These have been left *in situ*, as there is no more room for them in the Naples Museum. They are protected as well as they can be, and they are naturally more interesting in their original places than they are when transferred to the museum; at the same time, they certainly perish and fade more at Pompeii than they do when removed to a drier situation in the Naples Museum. A great part of the Naples Museum has been rearranged, and in many departments the changes made are for the better. They are, of course, very confusing to students accustomed to the old arrangement who are searching for a particular specimen. The Italo-Greek vases especially have been shuffled to an alarming extent, but their chronological arrangement is an improvement' although a good many important vases have been withdrawn from exhibition to make more room in the cases. Some important additions have been made to the gallery of masterpieces in marble.

Sanitary science appears to be incomplete when one of its leading authorities, the late Professor von Pettenkofer, was unable to bear the ills that flesh is heir to, and preferred to end his life on Sunday last with his own hand rather than to linger for a few years with decayed powers. But he rendered many services to hygiene while his faculties were vigorous. He was the first to be suspicious about the qualities of soils, and to his mind a holiday was necessary for everybody, not so much for change of air as for change of soil. He traced the quantity of water which passed through the ground, and was able to show that an immense quantity of carbonic gas was a source of danger that had hitherto been disregarded. That gas, unfortunately, has a tendency to prefer a passage through houses to the air, instead of following the most direct course. He was not content with his discoveries in soils. With no less accuracy he was able to trace the absorption of water and dangerous gases through stone and brick and the hardest building materials. Like all specialists, he seemed to believe that not only were his conclusions accurate, but that they were all-sufficient. Let a house or a town be preserved against ground dangers, be well drained and the water-supply be sufficient, there need be no fear of epidemics. The influence of microbes was of no account to him, and thus it was that instead of an ally he was looked on as an adversary by the followers of Pasteur. He was born in 1818 and was trained for a physician, but chemistry had more attractions for him. Many years had to elapse before his labours were recognised. It was not until 1875 that the University of Munich founded a laboratory for hygiene, but since that time they have been added to most of the German universities, the majority of the directors being Pettenkofer's pupils.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: VIEW IN NORTH TRANSEPT, SHOWING CLOCK AND TRIFORIUM WINDOWS.

CROWNWELL, NEAR SHALDON, DEVON.

The house of which we give an illustration has just been completed from the designs, and under the superintendence of Mr. Gualbert Saunders, architect, Shaldon, Teignmouth.

It is situated on the edge of the river Teign, which has been embanked and terraced to receive it, and commands a magnificent view of the river and country. Advantage has been taken of the nature of the site, and the building is in two blocks, the library and drawing-room forming one, connected with the main building. The materials used are local stone, brick and Bath stone, with an admixture of timber-work, while the roofs are covered with tiles for one building and slate for the other. The walls are built hollow, and iron casements used generally, and the whole forms a most commodious house.

Internally the library, drawing-room and dining-room are panelled with Oregon pine, left the natural colour, the other portions of the rooms being decorated in an artistic manner with bright colour and gilding from the architect's drawings and under his personal supervision.

The staircase is also of Oregon pine. The casements were supplied by Hope, of Birmingham, while local tradesmen were employed for the other portions. The contractors were Messrs. Parker Bros., of Newton Abbot.

REDCOTE, SWALLOWBECK, NEAR LINCOLN: SOUTH-EAST VIEW. SOUTH-WEST VIEW. DINING-ROOM. HALL SITTING-ROOM.

This house was built of brick, covered with Portland cement rough-cast, roofed with red tiles. The photos were taken by Mr. G. Hadley, of Lincoln. The architect is Mr. Henry G. Gamble, A.R.I.B.A., Mint Street, Lincoln.

TOWER OF LES HALLES, BRUGES (FROM GROEN MARKT). THE CATHEDRAL, BRUGES.

This fine old city is crowded with interest for the architect. It is a place with a history, and this history is well illustrated by its buildings. Of these many are imposing, many beautiful, and nearly all charming and interesting. Their variety is very considerable. The commonest feature is the stepped gable, generally helped out with brick tracery. These Gothic gables, well leavened with fronts of Renaissance times, render the streets all that the soul of the architect-sketcher desires. Three huge brick steeples—those of the cathedral, of the church of Notre-Dame and of the markets respectively—rear themselves with dignity above the city buildings. When scouring the various thoroughfares for "groupy bits" it is noticeable how one of these three crops up at every turn in a good-natured way to crown the view. The city gates with their flanking towers and the numerous canals and bridges add much to the picturesque side of the place. The building material is mainly brick, stone being comparatively rare. Indeed, artistic construction in brick is the thing of all others that fastens itself on to the vision of the architect who studies Bruges. The accompanying drawings show two characteristic bits, in one the cathedral being the leading feature and in the other the tower of the markets.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL

A BRIEF REVIEW OF ECCLESIOLOGICAL PROGRESS, 1855 TO 1875.

By T. FRANCIS BUMPUS,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

(*Continued from page* 52.)

WE are now entering upon a highly interesting and important twenty years in the history of the Gothic Revival—the epoch not only of ultra-Mediævalism but of eclecticism and development. The previous decade and a half had been, with a few notable exceptions, one of well-meant, and at times successful, copyism of ancient models. Now, owing in an eminent degree to increase in architectural literature, and to the widespread facilities for travel, architects were beginning to evince a disposition to emancipate themselves from leading strings, and to strike out a path for themselves. Thus a new phase of the Movement was created, which may be termed the "original" or "inventive" one, and in it the foreign element, to the almost total exclusion of our insular forms and details, was allowed for a considerable time to predominate. In the hands of certain practitioners this introduction of French and Italian Pointed was all very well, but when bits from the Isle of France and Lombardy came to be clumsily reproduced by inferior imitators, not only in every Peel district church of London and our large provincial towns, but in country villages, it is no wonder that a revulsion against the wholesale importation of continental Gothic took possession of several of these eminent practitioners, who, without sacrificing grandeur or abnormalism and originality of plan and outline, recurred very shortly to our own beautiful insular forms of Pointed.

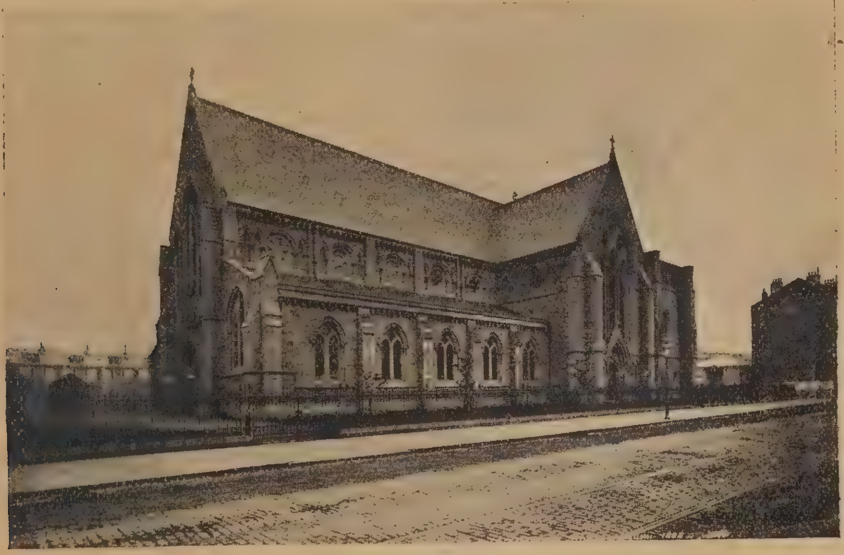
Not only were these twenty years a period of great change in our church architecture, but one of the greatest excitement and activity in every branch of ecclesiology, for as a natural sequel to the Oxford and Cambridge movements there had sprung up among church folk, young, middle-aged and even old, a love for and a desire to learn more of ecclesiastical art.

Not only were new churches, varying of course very much in merit, being built in every corner of the land, but old ones were being restored lavishly, if not always wisely, while others of debased architecture, built at a time when apathy with regard to church matters generally was in the ascendant, were having their internal fittings ameliorated to meet the growing spirit of reverence and decency in divine worship.

Great progress, too, was being made in all the arts ancillary to architecture—in sculpture, mural painting, works in the precious and coarser metals and embroidery; while stained glass was slowly but surely reaching that excellence beyond which it now seems impossible for it to go.

With all this came, it is almost needless to remark, a widely-spread zeal for a more stately and elaborate ritual than could have been seen for three centuries, for elaborate choral services, for reviving the traditional splendours of the altar service, with its rich vestments, lights and incense; for processions, with richly-jewelled crosses and delicately-worked banners; and for the decoration of font, chancel screen and altar with earth's fairest tributes, all testifying to the renewed belief that art is the handmaid of religion and wealth her bondslave.

Hitherto, alabaster and our beautiful native marbles, granites and variously hued stones had been sparingly used by architects, but the example once set by the architect of the Ecclesiological Society's "Model Church," these materials began to be brought into requisition—latterly in a manner in which some restraint seemed desirable—while brick, which for the first fifteen years of the Revival had only been made use of in its most economical form, proved, when it came to be varied in colour and kind, and to be manipulated by accomplished persons, to be compatible with the highest flights of architecture.

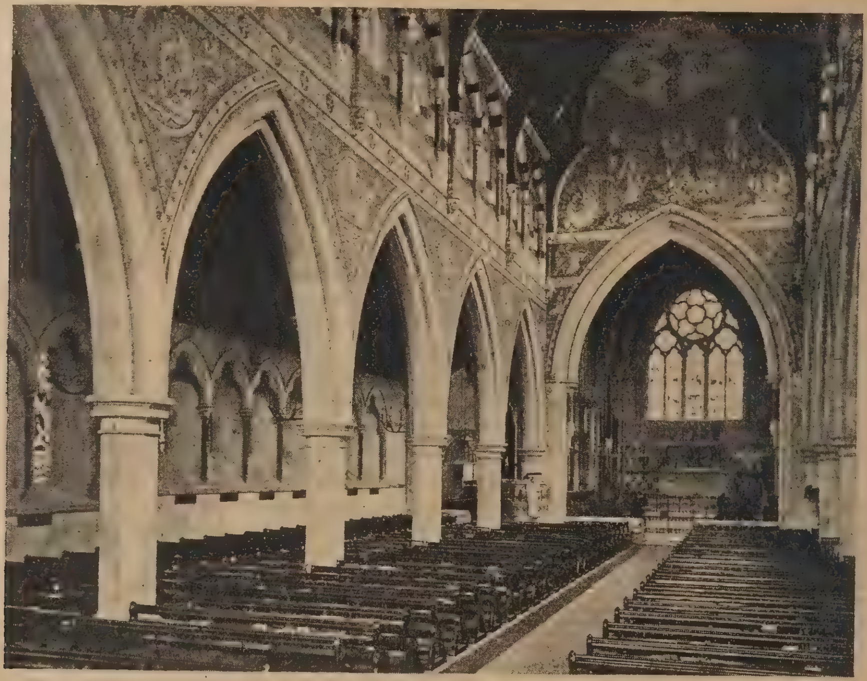


[*Photo by Valentine.*

ST. MARY'S, GLASGOW. (*G. G. Scott, Architect*, 1871–73.)

It may not be uninteresting at this juncture to take a cursory glance at some of the more important churches that were rising in England during these two important decades of our history, in anticipation of describing them more fully later on, merely premising that Butterfield, Brooks, Pearson and Street were looked upon as the representative architects of the High Church party, and Sir Gilbert Scott—to use his own words—"of the multitude."

Allusion has already been made in these pages to Scott's three grand churches—quite cathedralesque in their plan and dimensions—St. Paul, Dundee; St. Mary, Stoke Newington, and St. George, Doncaster, more particularly to the second, with its un-English ground plan, general disposition and detail. In All Souls, Haley Hill, we perceive a return on Scott's part to the English parochial type on a large scale, with costly fitttings, though still retaining the square abaci and somewhat foreign foliage of the nave capitals. These striking specimens of his genius were succeeded by a series of churches showing an abundance of excellent detail, but little novelty of thought or conception. However, as Sir Gilbert never settled down into a method, we have in them a series of experiments from his able hands, while in certain later ones a return to more strictly English forms is very perceptible. St. Andrew's, Derby; St. Andrew's and St. Matthew's, Leicester; his clever, though drastic, recasting of St. Michael's, Cornhill; that of King's College Chapel, in the Strand; a church at Sherborne, Warwickshire; All Saints, Ryde, an unclerestoried structure with three lofty naves, and a most graceful tower and spire at the end of the northern one; St. Stephen, Lewisham, an English plan cleverly wedded to somewhat Early French detail; St. Clement's, Barnsbury, a fine brick church, purely and refreshingly Early English, and a more sumptuous one on Ranmore Common, both built at the cost of Lord Ashcombe; St. John Baptist's, Croydon, rebuilt after the destruction of the old Perpendicular church with its grand series of archiepiscopal monuments,* in 1867, but, as regards its eastern portions, on a more grandiose scale, the original style being, of course, retained, and an additional bay being given to the nave; the college chapels of Exeter at Oxford, and St. John's at Cambridge; St. Mary Abbots, Kensington; and, in Scotland, the episcopal cathedrals of Glasgow and Edinburgh—such, among a host of others, are a few of the churches upon which Sir G. G. Scott was engaged during the period of which we are now treating.



ST. PETER'S, BOURNEMOUTH. (*G. E. Street, Architect*, 1857–67.)

The late Mr. Butterfield's churches of All Saints, Margaret Street, Baldersby, near Ripon, St. John, Hammersmith, St. Alban, Holborn, All Saints, Babbacombe, and St. Augustine, Queen's Gate, all marvellous specimens of constructional polychromy, were rising during this epoch, but as they have been dwelt upon in these papers at considerable length, further allusion need not be made to them. Keble College Chapel, begun in 1868 and finished in 1876, is perhaps the most extensive and sumptuous work engaging its architect's attention at this period.

Mr. Woodyer, in such churches as St. Michael, Tenbury, St. Paul, Langleybury, and St. Augustine, Haggerston, was enabled, while adhering to English detail, to invest them with a dignity and interest by temperate departures from Mediæval precedent.

In St. James Less, Upper Garden Street, Westminster, Mr. Street, who shortly before its inception had returned from Italy with his mind imbued with the Gothic of the northern part of that peninsula, revolted entirely from English precedent and gave us a church which, although undeniably graceful and clever, not to say sumptuous, is of a type so exotic to England that one would be unwilling to see it repeated in our midst.

St. Peter's, Bournemouth, begun a little earlier than his Westminster church, and one of the noblest efforts of Street's genius, although English in detail, presents several very wide departures from the generally accepted type of parish church, while SS. Philip and James, Oxford, St. John, Torquay, SS. Peter and Paul, Teddington, St. Margaret, Liverpool, All Saints, Clifton, St. Saviour, Eastbourne, and St. Mary Magdalene, Paddington, betray their designer's penchant for a southern type of Pointed in a marked degree, not only in style, but in materials.

It is worthy of note that several of these churches had the advantage of being built by degrees as funds allowed.* Writing to Rev. Temple West, the first and for many years vicar of St. Mary Magdalene's, Paddington—one of the churches so constructed—Mr. Street remarked:—

> Happy the architect who is allowed to build in this way. Most of our churches in these days are built in a hurry, just as if what ought to last for centuries would do appreciably less work if it were itself rather more than a twelvemonth coming into full existence. If clergy would do as you do—begin on a large scheme and build bit by bit—we should have more fine churches, and architects would not so often complain that nothing grand or noble is possible.

There can be little doubt that it would have been better for art if "festina lente" were kept more steadily in view by our church builders and restorers. To paraphrase the words of the eminent architect just quoted, Houses of God are not intended to last for a generation, and so men should wait till time and money can be spared to finish each portion in a manner as worthy of the purpose to which such buildings are dedicated as of the age we live in.

Towards the close of the sixties Mr. Street retraced his steps, and became more insular in his tastes. We have a fine example of this in the fourteenth-century Gothic church at Toddington, near Winchcombe, in Gloucestershire, while the arcade of St. John Divine, Kennington, in course of erection between 1870 and 1874, recalls that of Bristol Cathedral. A pleasing feature of this, beyond question the finest church in the transpontine districts, is the manner in which the architect has connected his broad nave with a chancel of more contracted dimensions by means of the "canted bay." St. Saviour's, Eastbourne—whose two-sided apse may have been suggested to Mr. Street by that of the "eastern choir" of Naumburg Cathedral—and SS. Philip and James, Oxford, also present this feature, the latter church, however, in a far less pronounced and not so graceful form, the arch dying off abruptly into the wall, in lieu of being brought down either upon a respond or a corbel. We have lingered so long among the works of Mr. Street during this busy period as to be able only to make mention of such large and important ones as the reædification of the south transept of York Minster and Christ Church Cathedral, Dublin, St. Margaret's conventual buildings at East Grinstead, and the nave of Bristol Cathedral, to say nothing of several churches built or restored for Sir Tatton Sykes amid the Yorkshire wolds.

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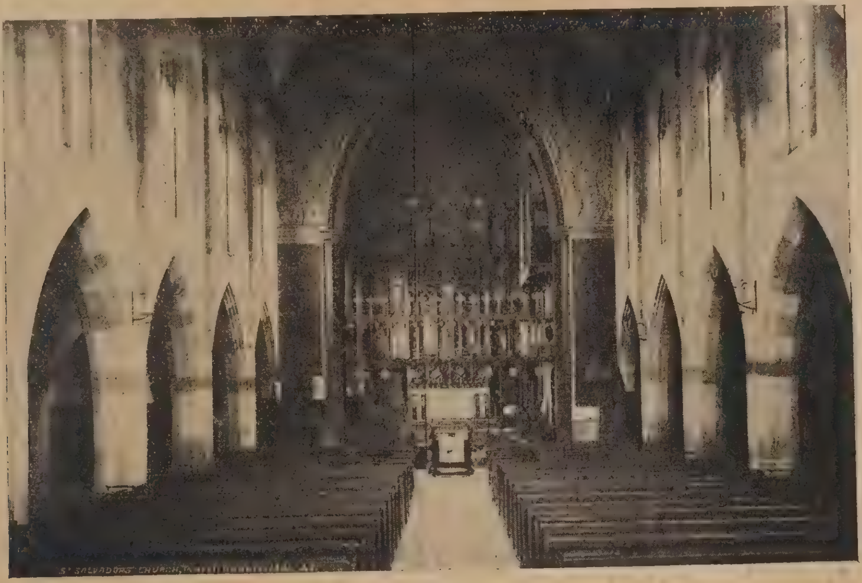
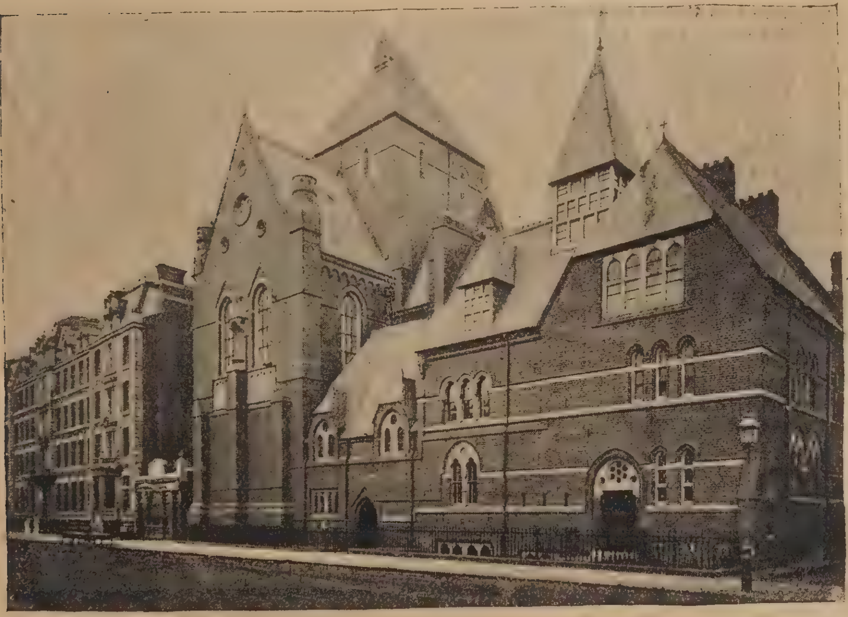
* With the exception of two—those of Archbishops Whitgift and Sheldon. The fire took place on the night of January 5, 1867, and exactly three years after, the church was reconsecrated.

* St. Peter's, Bournemouth, St. John's, Torquay, All Saints, Clifton, and St. Mary Magdalene's, Paddington, were each built by degrees. Of the last-named, the groined chancel—a feature it shares with the majority of its contemporaries—and the nave, covered at the height of its arcade with a temporary roof and with the bays bricked up, was opened October 21, 1868. Two years later the wide south aisle was disclosed to view. The clerestory and permanent roof (whose progress was arrested during the summer of 1872 by a fire which threatened at one time to destroy the whole of this beautiful structure), together with the tower and spire, stood completed in September 1873, but the church was not consecrated until 1878, it being the desire of the vicar to render it complete, as regards its decoration, before handing it over to the bishop for that purpose. The designs for St. John's, Torquay, first came before the world of ecclesiology in 1861; those for All Saints, Clifton, in 1864.



[Photo by Valentine.

ST. SALVADOR, DUNDEE. (*G. F. Bodley, Architect*, 1865-68.)



ST. COLUMBA, KINGSLAND ROAD. (*Jas. Brooks, Architect*, 1867-69.)

The work which brought Mr. G. F. Bodley's name prominently before the public was the church of St. Michael, Brighton, completed through the munificence of two ladies in 1862, but within the last few years completely ruined both as regards its external and internal ensemble by a huge nave and north aisle which another hand has built on to it. A most graceful brick church, it shows its architect's inclination at this period of his career towards French Gothic of the early thirteenth century, as does the striking saddleback tower added a little earlier to the poor Gothic Christ Church, Pendlebury. In a less marked degree is this shown in Mr. Bodley's next church, St. Martin-on-the-Hill, Scarborough, finished in 1863, though the "plate traceried" type of fenestration and the square abacus is retained. Very shortly after this, and doubtless from the cause mentioned in an early part of this paper, an entire change took place in Mr. Bodley's style, his churches of St. Salvador, Dundee, All Saints, Cambridge, and St. John, Tue Brook, Liverpool—all completed between 1865 and 1870—being conceived in that phase of English Pointed which attained its highest excellence towards the middle of the fourteenth century—a style which in his hands has become as completely individualised as Early Middle

Pointed in those of Butterfield and Woodyer. But while recurring to strictly English types, Mr. Bodley allied them with considerable abnormalism of outline, as illustrated by such works, in progress or completed between 1865 and 1875, as St. Wilfrid's, Hayward's Heath, where, the tower forming the chancel, the nave aisles are continued alongside of it in lieu of transepts as at St. Matthias, Stoke Newington; St. Michael's, Folkestone; St. Augustine's, Pendlebury, and the sumptuous church at Hoar Cross. An early, if not the earliest, work of Mr. Bodley was at France Lynch, near Bisley (c. 1855), and, in concluding some remarks on the working drawings, *The Ecclesiologist* expressed a hope that many future works would be seen from the same hand.

Pearson's noble Early Franco-Italian Pointed church of St. Peter, Vauxhall, not only attracted much notice on its completion in 1864, as being a revolt from English precedent complete as St. James Less, Westminster, but on account of its roof, whose consistent brick vaulting—the most extensive work of the kind undertaken since the Revival—has become a characteristic feature of its architect's churches.

Reviewing this epoch-marking church shortly after its completion, an erudite but unhappily now defunct periodical devoted to architecture and the arts ancillary to it remarked, "It is a somewhat singular coincidence that the cross church of the Holy Trinity, with its lofty spire, standing at the north end of Vauxhall Bridge, which so aptly represents the later period of the first phase of revived ecclesiology—that, namely, of clever but absolute copyism of the English Pointed church of the fourteenth century, which was at one time our peremptory dogma—should be the work of the same architect who has now, near the opposite end of the same bridge, constructed so remarkable a specimen of the architecture of the second or inventive and progressive phase of ecclesiology."

To about the same period (1860-64) belong Pearson's two Yorkshire churches, St. Mary, Dalton Holme, near Beverley, and Christ Church, Appleton-le-Moors, each equipped with a most graceful spire,[*] and presenting temperate departures from insular precedent. In 1871 Mr. Pearson began the first of that remarkable series of brick-vaulted Early Pointed churches in which, for detail, he seems to have sought his inspiration among such works as Lincoln, the south transept of York, and the choirs of Beverley and Worcester—St. Augustine's, Kilburn, the chancel of which was opened in 1872. But while the detail in this and his other church begun during these two decades of our history—St. John Evangelist's, Red Lion Square—is distinctly English, Mr. Pearson has preserved a strict individuality with regard to plan and arrangement, both being of a kind hitherto unknown in this country.

In London probably no more striking group of churches has ever been raised than those from the designs of Mr. Jas. Brooks between 1865 and 1870 in the old parish of Shoreditch, viz. St. Michael's, Paul Street, Finsbury; St. Saviour, Hyde Road, Hoxton; St. Columba, Kingsland Road; and St. Chad, Nicholl Square, Haggerston. Built of red brick or of red and yellow intermingled, with but little stone, and in a very severe type of Early Pointed—French rather than English—these from their great height are veritable town churches, and admirably fulfil the conditions under which they were built. With them may be classed the costlier stone ones of St. Andrew, Plaistow; the Church of the Annunciation, Chislehurst; and the chancel of St. John Baptist's, Holland Road,[†] the first two of which were rising contemporaneously.

Concerning all these interesting and valuable contributions to the ecclesiology of the Metropolis, much will be said hereafter when alluding to their painted glass.

In the parish contiguous to the one containing these typal specimens of town church architecture—that of Hackney—three churches were built about the same time (1867-72) from the designs of the late Mr. Francis Dollman, whose name had hitherto been associated more closely with the literature of architecture than with its actual practice.[*] One of these churches, St. Matthew's, High Hill Ferry, Upper Clapton, the possessor of a graceful steeple and much delicate sculptured detail, cannot on the whole be said to display very much power or originality. Better is All Saints, Lower Clapton, in a bold early thirteenth-century French style, with a really imposing rectangular eastern elevation. St. Stephen's, Goldsmith Row, near Hackney Road—one of those erected under the Haggerston Church extension scheme—is an unpretending structure of red and yellow brick with an apsidal chancel, the oblique sides of which are only half the width of the central one, a not particularly pleasing arrangement, but apparently a favourite with the architect, as we find it adopted in his church of St. Saviour, built two years subsequently (in 1874) at Walthamstow. One of this architect's largest and most imposing churches—All Saints, Stoke Newington (dedicated in 1876)—would have been improved had more height and less breadth been imparted to it, the style being a somewhat freely-treated Early English in its lancet phase, carried out with but little stone in tastefully varied red and yellow brick. One of its best features is the western lean-to narthex opening into the nave by three graceful arches on piers of the compound type, but whose effect has been much impaired by the filling in of the said arches with glass doors of an elaborate character.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last. The president, Mr. W. H. Seth-Smith, took the chair at the beginning.

A vote of condolence to the King and royal family was passed.

Messrs. A. F. Benjamin, W. J. Brough, B. A. Everitt, A. H. Fleuss, A. P. Lambert and E. E. Temple were elected members.

Mr. T. Davison was reinstated a member.

Mr. D. T. FYFE read an essay illustrated by lantern views and sketches on—

Some Architecture in Crete and Turkey.

Like all Greek lands, Crete belongs to the dawn of history, and is rich in remains of that Mycenæan civilisation about which so little is known. This period, however, belongs more to the domain of archæology than of architecture, as also, in the case of Crete, do the Greek and Roman periods, their remains being so scanty as to afford little architectural interest. After the decline of the Roman period the island was conquered by the Saracens in A.D. 820, then by the Byzantines in 961, but to Venice belongs the chief Mediæval period, which lasted from 1204 till the final conquest by the Turks in 1669. The island in its most representative aspects is Venetian. Under the Turks how rebellion followed rebellion is matter of well-known history.

It is certain that Crete held an important place in the early Ægean civilisation. Homer mentions it as a land of ninety cities, from which we can infer that it was highly populated. The sites of many of the Homeric cities have been identified, and are now partially disclosed, notably Knossos, Gortyna and Ghoulas. In their construction we notice the same characteristics which are displayed in the palaces of Tiryns and Mycenæ, in the mainland of Greece, excavated by Schliemann and Dr. Dörpfeld, &c. In all are the same mud (or rubble and mud) walls, mysteriously appearing to be contemporary with cyclopean masonry; the same circular stone column bases and paved areas. Only Knossos has produced some entirely new forms of architectural plan and detail, and such a collection of painted stucco, both existing on the walls and in fragments, as to make it quite unique in the Levant. Looking at this stucco as a means of decoration, it is noticeable that two distinct scales seem to have been employed, one, comparatively easy to appreciate now, consisting of life-size representations of figures, bulls, gryphons, &c., or conventional representations of landscape. The other consisting of very small objects or figures produced in a more brilliant style, and found in such small fragments as to make it hard to understand how it could have been used. From this latter variety some very interesting architectural representations are apparent, which help o elucidate the subject of Mycenæan building. The art displayed at Knossos is the complete fruition of the genius of the time. Though some of the finds at Vaphio, in Greece, are quite is artistically mature, a comparison of Knossos with either Vaphio or Mycenæ is futile at present, and so much of the reasure of the latter comes from the tombs, which in the Cretan site have not as yet been discovered. But in the palace tself enough has already been found to show that in this reputed home of the art of Dædalus a very keen, strong perception of natural forms existed, and a direct getting at nature behind an indefinable veil of conventionality, which gives the art of this epoch a distinct value of its own. In building, the outer walls, which may have been more or less fortifications, are based on ponderous squared blocks of gypsum, which weathers with water grooves, like the hard calcareous substance of a cave. The bases of many walls in limestone and gypsum have been found very accurately levelled and laid out, but it still remains a problem in many cases whether the superstructure was of the same substantial material or of mud to take stucco work. Nothing of direct evidence has been found to point to the existence of later Greek or Roman settlements over this primitive one of the palace at Knossos, though many Roman fragments exist in the vicinity. The site of Ghoulas is an acropolis much more approaching the wild and inaccessible character of Mycenæ than the refined and civilised Knossos. Splendid polygonal masonry exists here, forming ramparts up a steep hillside which overlook a truly Greek prospect of hill and plain. And here also are picturesque evidences of a later Roman settlement on the acropolis itself. But Crete has no prominent Roman architectural remains above ground that would bear comparison with those of Italy, Greece and Asia Minor, and be of much help to the student in his search for the historic links which bind the imperial art to the Romanesque and Renaissance of later times. Coming to more modern times we notice also that Crete has passed through so many vicissitudes, and fire and sword have wrought in it such havoc, that its present day can show but little of permanent architectural value above ground. Whatever it was in early times, both under the Venetians and the Turks, it formed but an outpost station, very liable to attack; so it is not surprising if the engineering of walls, and the useful side of architecture generally, form a large part of what is to be seen in the island to-day.

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[*] Drawings of the spire of the church at Dalton Holme, and of that intended for St. Peter's, Vauxhall, appeared in *The Architect* of October 26, 1872. A church by Mr. Pearson at Kirk Braddon, also designed with a graceful spire (in this case an unpinnacled broach) was begun about 1873.

[†] The nave and transepts of this fine building were not completed until within the last six or eight years, the chancel having been opened in 1876. All Saints, Perry Street, Northfleet, a small but excellent example of Mr. Brooks's skill, may also be alluded to here.

[*] Allusion is made here to Mr. Dollman's "Analysis of Ancient Domestic Architecture" and "Ancient Pulpits." For many years Mr. Dollman made a special study of St. Saviour's, Southwark, the fruits of his researches being given to the world about twenty years ago in an elaborate work on the history and architecture of London's "Southminster."

The more modern architectural remains of Crete include:—(1) Churches and monasteries in a pseudo-Byzantine style, similar to those met with in the country districts of Greece. (2) Buildings of the early Venetian period, in which the pointed arch was employed. (3) Later Venetian buildings in a provincial Renaissance style. (4) Turkish buildings, which are mainly domestic and in plain stucco. The town of Candia contains examples of all of these, except the first, though it has also been sadly deprived of much that was apparently interesting of the Venetian period. I shall give some description of Candia, and then indicate what I saw of other work. The great defence of Crete against the Turks in the seventeenth century was a matter of such interest to the Christian Powers of Europe that we fortunately possess some literature on the subject, and contemporary plans of the fortifications of Candia, the siege of which lasted for more than two years, and became one of the most memorable in history. I have here a plan of that time made by a French admiral, the Marquis de Ville, who commanded a relief expedition. This plan will serve to show to the curious the nature and extent of the original fortifications. Many of these, especially on the north side, exist to the present day in a good state of preservation, and some of the photographs I have will indicate their character. It will be seen from the plans that the nature of the harbour has been taken advantage of much in the same way as at Rhodes, and the fortifications of the two towns resemble one another, both being more irregular than those of Nicosia, in Cyprus, a plan of which was published in the *Builder* recently. The Candia walls are good examples of their class, but they have no prominent towers and no decorative details of interest, except the occasional panels with the Lion of St. Mark, and a few small carved coats of arms. So they are probably inferior in general interest to those at Famagusta, in Cyprus, and those at Rhodes. There are three principal gates in existence, all Renaissance of the Venetian period: the Canea Gate, the Kainourio or "New" Gate, and the Lazaretto Gate. This last is probably the most interesting of the three, and has a long vaulted passage from the ornamental inner gate to the outer entrance. This passage is barrel-vaulted in rubble, and descends pretty rapidly towards the outside. It turns sharply to the left at the end, so that there is an intersection, over which is a dome lit with a single eye; thus when the outer gate was shut the passage would not be in darkness. The form of the inner gate, with its pediment, is quaint; but the details are coarse, and in no way improved by much whitewashing. The part of the wall at this gate was perhaps the most impregnable, as it commanded a very deep moat, owing to the rapid slope of the ground towards the sea. The level square of the town inside the gate is raised artificially, and a few steps ascend to a platform which juts out beyond the main line of wall, being built upon a forework which originally protected the bastion here. The raised plateau is now the Public Garden, and commands a fine though limited view seawards and a good sight of the walls. To return to the other gates. The Kainourio is more commonplace than the Lazaretto, but is of naked stone, and has a good quiet cornice. It forms the entrance to the town from the interior of the island, and the present roadway really crosses what was the moat of Mediæval times. It has also a long vaulted passage from inner to outer gate, though not so remarkable as the other.

The Canea Gate has even less of architectural interest than the other two, and I do not possess any illustration of it. It has no vaulted passage, being merely in the thickness of the wall, and it leads to the high road that runs eastwards along the north shore of the island, towards Retimo and Canea.

Leaving the walls and gates now, and entering the town by the harbour, we see first the remains of the great arches of Venetian Gothic which formed the arsenals of the Mediæval town. They are marked thus on the old plan, and were, no doubt, complete before the great siege Now, in their ruined state they are used as boat slips. The responds which exist on the back wall show that there must have been ribbed and groined vaults here, and the piers that exist are massive enough to show the large scale of the whole. Leaving the harbour, we pass up a sloping street to the centre of interest —the market square—at the highest part of the town. Streets radiate in all directions, but the interest here is diffused, and the square is only a quiet aside. The throng of the markets is at another meeting of streets a few yards from it, surrounded by low, squalid buildings, with here and there a crazy, whitewashed dome. The market square, however, has a fine old Venetian fountain in the centre, surrounded by a Turkish marble and wrought-iron grille, and from this point can be seen, partly hidden by a large plane tree, the only large building in the town of any character—the old Venetian Renaissance armoury, now proposed to be renovated and used as a museum of antiquities. This building is a very good example of its period, and exhibits, as do other little things in Candia, many of those quaint provincialisms which so often delight the careful eye in architectural by-paths. The proportion and details are alike good and admirably in scale with the general air of the town. A crowning balustrade is rather wanting somehow, though its addition might take away from the Venetian character of the building. White stone is the material used, but the lower storey has been whitewashed—a favourite trick of the Turk everywhere. The smallness of the rustication is noticeable. At the rear of the building, otherwise plainer than the front, are some quaint metopes in the Doric frieze, representations of weapons, &c, carved with great boldness. The other Renaissance work in the town is fragmentary, but the Turks largely adopted details of the late Venetian occupation, which causes some confusion. The Gothic work in the town, or rather, the Pointed arch work, is in some cases even more difficult to analyse, as the Turks are always at home with the Pointed arch, so that the Venetian Gothic and the Turkish work are not always readily distinguishable. Both of them have probably a Saracenic origin. Venetian Gothic is certainly quite a unique flower in architecture, and perhaps belongs properly to the East, as the Turkish work undeniably does. There are one or two charming fragments of Venetian Gothic in the town, enough to show what might have been under a more fortunate dispensation. The doorway is a good example. The capitals at the impost show Byzantine and Classic influence, and are beautifully detailed. The sturdy stone fountain of lions in the market square is quite a treasure, with large and generous treatment of basins and mouldings. The Turkish grille surrounding it, though it rather hides the older and better work, gives it additional dignity. The form of the grille is probably governed by the old carved marble panels of Roman or Byzantine time which are built in at the base. In the new upper part a light grey marble is used for the framework, sparingly decorated with gilding and green paint. Here should be mentioned the only Gothic church in the town which is still standing. It is now used as a mosque, but is evidently the building marked as St. Saviour's in De Ville's plan. It has no pretensions whatever, being merely a barn-like structure, with high, narrow, pointed windows, all perfectly plain. It has a stumpy Turkish minaret of pleasantly original design. This mosque is illustrated in Pashley's "Travels in Crete." I have, unfortunately, no illustration of the wall fountain in the little square beside this mosque, which is the only example I know in Candia of Roman work being built into a wall by later hands, and which is so commonly seen and often so charmingly effective in Rome and Constantinople. The Candia fountain has merely a quaintness caused by broken-nosed statues and battered columns, associated with some common-sense mouldings. Of Turkish work one of the best old fragments is the series of arches in the main street leading up from the harbour. It much resembles the boat-slips at the shore, but has one or two tricks of Turkish detail. The Turkish fountains are mostly at the corners of the streets, and, generally speaking, are hardly worth taking note of; but in one or two cases the simplicity of the mouldings deserves attention. Turkish work, when it redoubles on itself without other influences, has a tendency to over-elaboration, and most of the great show fountains of Constantinople are glorified grottoes in their total effect; so that it is refreshing to come across some things in this little provincial town which, either from poverty of workmanship or uncertainty of style, are simpler and broader in treatment. The little corner kiosk illustrates the better class of Turkish bijou in Candia, and though it is small, has some claims, if one can get behind the oceans of abuse and whitewash. The centre spot in the lower panels is a favourite form, and is met with all over Turkish work. In the narrow winding streets one sees Turkish wooden houses with latticed windows, usually with a good projecting cornice and pilasters, and the upper storey projected 2 or 3 feet and supported on wood brackets. In the high walls giving access to the forecourts of the stone houses one sees here and there a Renaissance door and window, with occasionally a wall fountain, a trough surmounted by a round-arched niche and accessories being the usual motive. None of these call for any particular remark. The wood houses are pretty much the same as those in the streets of Stamboul and remind one a little of English half-timbered work, gables of course being absent, and a thin, matchboardy effect taking the place of the solid oak of the English. I have reserved the mention of the earliest work of all, the Byzantine, till the last; but there is really no definite building in that style that I am aware of existing in Candia. There is not a recent building of any note whatever, except perhaps the Greek cathedral, and not a single mosque which is worth enlarging on. The best mosque in the town is the plain old building mentioned before as the only Gothic church existing; but here, beyond a picturesque, weather-beaten, brick-and-stucco wall there is nothing to be noted. The modern Greek cathedral is best seen at a distance, and gives additional life to the sea view of the town. One can pretty well take in the town after a walk through and appreciate what it is—tawdry, neglected, Mediæval Eastern—shortly to become more important, perhaps, through a museum which consists of valuable exhibits with no proper building to hold them; which is part of the fact that many people have ideas about reform in Crete, but as yet very little money or unanimity of opinion have been forthcoming to carry them out.

But leaving Candia and the burden of Crete meanwhile, let us turn our attention to other parts of the island, and see what is to be found in the way of architecture. And if the result is disappointing, we can remember that archæologically, at least, the ancient evidences are of immense value. The results of Knossos, Praesos, Sortyna, Ghoulas, &c., and the sundry caves of Zeus are giving Crete a research interest quite exceeding expectations. Architecturally, however, it has no town with a strong Mediæval interest, like Rhodes, and no body of work such as is disclosed to us in M. Eulart's new book on Cyprus. The results for Crete are in comparison meagre and fragmentary; here and there a small Byzantine church or a picturesque monastery, and for the rest merely the plain domestic work met with in the country districts of any Eastern land. It is true that there are two other towns of importance on the north coast—Canea and Retimo—Canea being really the modern capital of the island; and I have not examined these towns as I have Candia, but anything really important would naturally be found at the latter place. The growth of Canea is due to the adjacent harbour of Suda, by far the best in Crete, and its prestige is only on the modern side. It is the residential town of the High Commissioner, and, like Retimo, a commercial centre. It would be necessary, therefore, to thoroughly explore the country districts to arrive at a complete knowledge of all the smaller Cretan work As the architectural bits are so fragmentary, and native evidence so little to be depended on, this would mean a tour of several months' duration. The Italians are said to be working up the architecture of Crete now, but I am not certain how thoroughly for the country districts.

The houses of the Turkish beys are the only ones left to us of any importance. They are usually farm-steadings in themselves, but the houses of retainers are sometimes grouped in a tiny village near. I can briefly illustrate the better class of house by the one I have most acquaintance with—the headquarters of the excavations at Knossos—of which I have sketch and plan. The front entrance is quite a private one, and leads to the little piazza reserved for the household. The real entrance is at the back, through a courtyard, and leading out of this yard, round which are grouped the stables, is a smaller one descending to the kitchen apartments and entrance to the harem. The selamlik looks out to the front, as do the other principal rooms. All have stone wall fountains, which cool the air in summer, and a divan, or at least a platform, round three sides. Glass is a luxury, but hinged wood shutters opening outwards are indispensable. In the house I am describing, joined on to the house, besides the little piazza in front, is a large water tank, forming a reservoir for the irrigation of the garden. This tank is not conducive to health in summer time. The house is all whitewashed externally, and is very sensibly plain, with a square parapet to the flat mud or cement roof. The rain water is carried off by channels running down the wall, which in the front of the house are screened by pilasters. The ceilings are of wood, stout exposed rafters carrying boarding. In the back entrance lobby is an olive press in the wall for the use of the household. As for the villages, the small out-of-the-way ones have the merest shanties, with rough stone whitewashed walls and flat mud roofs, huddled together in picturesque style. The hill-villages in summer are pleasant, as one-half lives on the roof. The larger villages have whitewashed houses, the more important ones with courtyards opening off the streets, and sometimes of two storeys, as in Candia. Red tiled gabled roofs are also occasionally met with, though they are really modern features.

The next thing to consider is the Byzantine church. This is often in splendid isolation, sometimes on a hilltop and occasionally even on mountain summits. But every village has its ekklesia; at feasts, such as Easter, a very important place indeed. The universal plan is an oblong hall, without a narthex and with but one feature—the tiny apsidal projection at the east end, finishing semi-dome fashion. In this apse is the only fancy window; in common cases, usually a queer little two-light, with the luxury of a hood-mould. The better class of church has a carved door or painting in the plastered vault. Notes from the two churches beside the ancient site of Lyttos will illustrate. The church of St. George illustrates an average arrangement. There are traces of rude painting in the vault of this church. A very common type of door-head in small churches was also sketched. The wood doors of these churches are sometimes elaborately carved. The usual type is a two-leaved square door, with a rounded centre-post, on which most of the carving is lavished. Many of these wood-carvings are so undoubtedly executed in the full tradition of good work that it is astonishing to find they mostly belong to this century, in some cases being done within the last thirty years. So tradition is dying hard in Crete. It is quite possible that these churches at Lyttos, not specially celebrated in the island, may point to some fairly interesting tit-bits of Byzantine work, with, perhaps, one or two new developments of plan in other parts of the island. But there are no outstanding churches of any size, and I doubt if results would go beyond the student's note-book. I have the names of three or four other churches in the island which are said to be interesting.

Following naturally from this, of course, is the subject of the monasteries, as they always have chapels attached. The situation of monasteries here, as elsewhere in the Levant, is often very delightful. One rides up a ringing stony pathway to a sense of summit and retirement, and a clean spacious comfort which is a relief to the wayfarer after the squalid village. They are usually more subjects for the sketcher than the architect in his more practical moods, but the monastery at Arkadhi shows a front of considerable interest, with that quaintness of combined Gothic-Classic influence so instructive often in unhackneyed forms. In this way it appears to be even more interesting than the armoury at Candia, though I regret that I have not been able to verify the detail from actual observation.

Unfortunately, I have reason to believe that this is one of the only things of its kind in Crete. The country is not rich in monastery work. A deserted monastery on Mount Iuktas shows how the average of these buildings tell by their grouping, but have no particular architectural qualities, strictly speaking.

The second part of this paper, dealing with some Turkish work at Broussa, follows somewhat naturally from the first, as after an examination of the mosques at Constantinople one feels, as in Crete, the readiness of the Turk to adopt the indigenous architectural forms in the territories of his conquests. The work of the Osmanlis at Broussa, however, is earlier and more representative than any found at Constantinople, and holds an isolated position in Turkish art, somewhat similar to the Cinquecento in the history of the Italian Renaissance. The intricacy in the developments of Eastern work is manifold, but in the vast web of Saracenic styles the growth of what might be called the Renaissance of Turkish architecture is at least clear and distinct. The beginnings are to be found in Asia Minor, in those large and suggestive and often very beautiful remains of the Seljouk domination. It may be said that this pointed work of the Seljouks bears most affinity to Persian work, on which, as far as I know, it was directly founded. The work about which I wish to speak begins with the era of the Broussa Sultans, when Mourad, Bayezid and Mohammed—all first of the name—built the chief mosques of Broussa. Founded as it was on what the Seljouks had done before, this work seems to have in addition some large and common-sense individualities. The typical two-dome plan, which Texier observes is not found at Constantinople at all, is best seen here in the Mosque of Mourad II., the Mosque of Bayezid I. and the Green Mosque, or Mosque of Mohammed I. It is of this last, and of its turbeh adjoining, that I wish specially to speak.

The two-dome plan in its completeness has an open porch or loggia of the whole width of the entrance front, and this feature can be seen in the Bayezid and Mourad mosques. The Green Mosque, however, was left incomplete, and the porch was never added. It would be interesting to know whether the great canopy of the central doorway belongs to the original period or was added later. The mosque was built in 1420, and one hardly looks for such big, say Michel Angelesque, detail in Anatolia at that time. In exterior disposition the mosque is uniformly of two storeys, finished with a cope, over which is a low-pitched roof. At the entrance end are two minarets, originally covered with green faïence, and evidently reconstructed since the earthquake of 1855. The exterior generally is all marble surface, and has exquisite carving at the doorway, windows and niches. The doorway is a particularly fine piece of design, both in proportion and detail. The plan in essentials I can answer for as being reasonably correct, though there is no scale. As yet I have seen no publication of the plan of this mosque. Recollect in this connection the caution that is necessary in Turkey when taking notes on a casual visit, and do not judge hardly of these meagre sketches. The thought displayed in this building is its essential quality, and this one may realise without elaborate means. The adjoining turbeh, or tomb of the founder, is one of the most delicious creations imaginable. The lower part of the exterior is of white stone, with large panels of bright blue-green tiles. The upper part is painted light green, and it is finished with a domical lead roof. It is of large scale, as can be seen from the figures in the entrance The sketches exhibited were from memory, and, as in the case of the mosque, have no scale. The following notes concerning both these buildings were taken on the spot Beginning with the turbeh first. Outside the mouldings are large and simple, and the size allows for great breadth of scale. There are ornamented tiles over some of the lower windows, and panels of same above these. The doorway is a fine piece of colour, painted, not tiled, and over the doorway is a good, simple stone-moulded hood. The plan of the building is an octagon, with a range of large lower windows occupying six sides, the mihrab and door, opposite each other, being in the other two. There are two ranges of upper smaller windows, the highest being just below the springing of the dome, in that deep band of slightly projecting corbelling, triangled out, which occurs so often in Turkish domes. These top windows are stained glass, the others plain; but the light coming from the lower ones is subdued, as the wall is very thick, and the straight ingoings catch a lot of light. The interior defies description. A rich blue-green dado of hexagonal tiles, with a border at the floor and ditto at top, runs right round to a height of about 10 feet. It stops against the doorway and mihrab, and the windows are set in it with independent borders. At the sides of each window, about midway up the dado, is an ornamental spot of tiling. At the broader mihrab and door there is only room for half of this. All is white plaster above the dado, except for a little centre flower painting in the dome, not of much account. The stone floor has an octagonal centrepiece, raised one step, and ornamented with tiles on the edge. Above this, again, is a square tiled platform, about 18 inches high, for the bier. This platform has a vertical design of tiles of great beauty and exceeding richness of colour—a perfect harmony of blues. The mihrab has some exquisite work; in fact, it is full of the most delightful detail in form and colour. The small round pillars, covered with faïence, and the centrepiece over the pointed niche-head, are specially noticeable. In the latter one notices the delicacy and beauty of the contrasts between the main ground colours; pale mauve competes with a light blue-green, helped by a judicious balance of white and green-yellow. There is an immense amount of study in the floral patterns. The lighting is perfect. Leaving the turbeh, we come to the mosque. Outside, certain windows have a thin blue strip of tiles, 2 inches or 3 inches wide, inside the architrave. This has a good effect in combination with the white marble. The interior, considering its size, for bigness and beauty and rest, impressed me more than almost any I know. It is on the two-dome system, and quite successful, owing to some simple expedients. (1) The entrance-domed hall has two side-spaces opening off it, roofed with hexagonal domes and with floors raised above centre level, which gives the entrance a breathing room that is particularly valuable. (2) The floor of the inner domed hall is raised some 2 feet 6 inches clear drop above the other, with a small centre stepway only. (3) There is a flat marble arch between the domes, which is good, as it doesn't exclude too much light or separate the domes too much. (4) There is a small octagonal fountain under the outer dome which helps it to be more obviously an entrance to a higher shrine. (5) There is a circular top light over this dome, so that the inner dome, being darker, has more of an air of mystery. All the richness of tile decoration (and this part is quite as fine as the turbeh) is concentrated on the doorway, side recesses and upper gallery, so that the entrance end is bright and cheerful, yet with an air of quietness about the side niches of the door; the inner part is plain, sombre and tomb-like. Yet with all the accessories the two are so perfectly joined together that there can be no question as to their being one building. Standing in front of the daïs looking back to the door one notices the fine effect of the subdued light in the rich tile work there, all in a beautiful scheme of blue. There is a dado in this building as in the turbeh, but not so fine; the colour is a plain dark green. There is nothing particular about the mihrab and minber.

The lighting arrangements of this mosque are most instructive for study: there are three small windows in each of the main domes, at the springing, and the side domes have each six similar windows. The other windows give a subdued light, as in the turbeh. The gallery on each side of and above the entrance is a most interesting feature. Undoubtedly it bears some resemblance to the similar feature in the Mosque of Mourad II., of which Texier has a plan.

Other most interesting mosques in Broussa, besides those already mentioned, are the Ulu Jami, or Great Mosque, the Mosque of Emir Sultan, and the Mosque of Mourad I. at Tchekirgeh. The former is a very large building, more like a bazaar than a mosque, and quite dominates the general view of the town. It is of large simple-pointed work, with two tall minarets and a forest of domes. It is finished in stucco, like most of the Constantinople mosques, and this poverty of material contrasts rather unfavourably with the Green Mosque, which is finished with marble both outside and in. Some very good brickwork is also to be seen at Broussa—in the exterior of the Mosque of Emir Sultan and in the various turbehs at the Mosque of Mourad II. The type of entrance loggia which was so common here and which was continued as a feature in the Constantinople mosques, may be well seen from the Mosque of Bayezid I.

In considering the conditions of the problems presented to us by these Turkish buildings, we can learn by seeing the use the builders of them made of their materials to hand *in toto*, that is to say, of conditions of climate and religion, as well as hard, matter-of-fact forces of everyday design; and following from this, by the good old lesson on the justification of apparent eccentricities, common in some form or other to every period of architecture. What strikes as boldness in a design, when we come to analyse its constructive meaning, may appear simplicity itself when the effect as it stands is only taken into account, and unworthy of any except admiring notice. For example, stripped of its effects and considered on plan, the corbelling out of the main domes of the Green Mosque on three sides only may appear freakish, but in reality it serves to make one interior of the two domes, especially as softened by the beautiful form of corbelling adopted by the Turks and all Saracen races The fact, too, in the same building of a higher shrine inferior in cheerfulness to the lower entrance part seems peculiar on the face of it, apart even from any religious motive; but when we see that this effect is balanced by a stately gravity in the design of the entrance wall, and, moreover, is quite reasonable in itself from an æsthetic point of view, we realise a something here which gives a sense of fresh perception, and as such is, of course, of the highest value. The sense of strangeness in contemplating Eastern buildings at the first rush is inevitable to us, because the real East is far removed from the West in everything, including such a small thing as the treatment of an interior. The elements of the composition in a mosque interior are the fountain of cold water surrounded by cool and restful colours and an exquisite diffused light. In the best mosques there is no attempt at strenuousness in anything. The mihrabs, though often marvels of detail, are set as a rich door in a plain wall would be, which means that they draw attention to themselves, but do not detract from the simplicity of the composition as a whole. Naturally, in Eastern countries the smallness of the entire window area necessary for lighting a building adequately vastly affects the conditions of design. It is this, perhaps, that makes the domical construction of these countries so easy, as there is no need to be eternally fussing about this or that window which interferes with this or that construction. The total effect of lighting in two interiors (one Western and the other Eastern) may be the same—the former with its many windows and the latter with its few. The advantage, however, for purposes of decoration is distinctly with the East; the wall spaces are broader and simpler, and the absence of an appearance of lighting forcing itself on one gives greater restfulness to the decorative effects. Thus in a measure the entire question of Eastern decoration must be considered with reference to itself alone. The large use of tiles in decoration is the prevailing characteristic of Persian art and what emanated from it. This makes possible the large spaces of plain colour which are necessary when only borders and spots of pure ornament are used. Hexagonal tiles of an exquisite blue-green relieved by gem-like touches of pure colour, such as we see in the Green Mosque, are, under the circumstances, perfectly satisfying. It is a question of surroundings and mental attitude to a large extent. Coming from the blinding sun and dusty glare of an Eastern summer into such a perfectly neutral half-light, with its cool marbles and fountains and its atmosphere of satisfying colour, one feels a sense of the fitness of things. Use and want and perception of long ago have made the materials which best suit the situation. The practical conclusion of the whole matter is to try and find out how the Moslem has solved the ordinary problems of his building, for naturally he has a certain discount to start with, having Persian tiles, which belong to the world's chiefest treasures of art, at his command. But if there are evidences of thought in their setting—as I think will easily be found in such buildings as the Green Mosque at Broussa—we can have scope, after the first burst of admiration, to contemplate wise solutions of problems which come very near to us after all. There is a strange freedom also in the treatment of much of the Turkish work, which makes it easy to institute a comparison with modern work. For instance, Mr. Philip Webb's conception of stone detailing seems to me similar to the attitude of the Broussa builders in a like capacity. A strong feeling for material is evident, and a daring reserve in design which is nearly always justified in effect.

Mr. R. Phené Spiers said it was curious that walls made up of sun-dried bricks should have endured for so long a period, but ancient sun-dried bricks were very different from what one could imagine who had only experience of the modern varieties. They also needed information about the process of primitive fresco-painting. He proposed a vote of thanks to Mr. Fyfe.

Mr. Beresford Pite said he hoped the name of Mr. Arthur Evans would be included in the vote of thanks. The frescoes were of great interest, and from a study of them we might be able to infer the schemes of colour and the types followed in Greek decoration of a later period. The extremely naturalistic expression recalled the interesting statues which were in the Bulaq Museum.

Mr. Walter Crane spoke about the great interest of the frescoes, which produced on his mind a similar effect as the Pompeiian.

Messrs. A. T. Bolton, A. C. Dickie and R. Elsey Smith supported the vote of thanks.

Mr. Arthur Evans, the discoverer of the palace at Minos, said the result of the excavations was very surprising, but he was more especially interested in investigating the question of the early writing in Crete. At first it seemed hopeless that any discoveries would be made, but the result of a few weeks' digging revealed the astonishing fact that this primitive city remained untouched since the days of the Mycenæan rulers, and, indeed, little that was later was met with. It was almost incredible that the walls of so ancient a palace existed so long undisturbed within a few feet of the surface of the ground. Looking at the rooms and their decoration we might suppose we were in Pompeii, and yet a vast interval must have separated the two varieties of work. Similar vases to those represented on the walls were to be seen in Egyptian paintings. It was evident from the inscriptions the people were possessed of an adequate system of writing. Crete was undoubtedly the centre of a very high civilisation.

Mr. Fyfe also briefly replied and acknowledged the vote.

GENERAL.

Professor H. Lloyd Snape has been appointed director of education for Lancashire. He occupied for more than twelve years the chair of chemistry at the University College of Aberystwith.

A Hotel is in course of erection at Santa Lucia, near Naples, on land which was reclaimed from the sea. It will be known as the "Hôtel Splendide." It faces Vesuvius to the east and has an uninterrupted view of the bay to the south.

Mr. Holman Hunt unveiled a marble memorial of the late John Ruskin last Saturday at St. Paul's Church, Herne Hill.

A Watteau Painting of considerable historical interest was stolen from the museum at Lille and offered the same day to a local dealer for 5 francs. The tradesman had the thief arrested.

Sir Archibald Levin Smith, Master of the Rolls, has been made chairman of the Royal Commission on Historical Manuscripts, in place of Lord Alverstone, who has resigned, and is now a member of the Commission.

Mr. J. Hall Rider, chief consulting and resident engineer for electric tramways and electric lighting under the Plymouth Corporation, was on Tuesday appointed electrical engineer to the London County Council at a salary of 1,000*l.* a year. The appointment is made chiefly in view of the reconstruction of the Council's tramways for electrical traction.

The Fifteenth-century Church of Wrexham is undergoing reparation. Messrs. Prothero & Phillott, of Cheltenham, architects, have reported that the tower and external structure of the church require immediate and careful reparation. The cost will amount to 9,000*l.*

The Will of the late Mr. William Pole, F.R.S., consulting engineer, has been proved at 36,516*l.*

Mr. Robert Donnelly was on Monday elected building surveyor to the Corporation of Dublin.

The Ninth Jubilee of the University of Glasgow will be celebrated on June 12, 13 and 14 next.

The Five Sets of Plans selected for the second stage of the Cardiff Asylum competition have been on view at the Town Hall during this week. It is understood that Messrs. Oatley & Skinner, of Bristol, have obtained the first premium of 500*l.*, and that premiums of 100*l.* each have been awarded to Messrs. Greenaway & Newbury, Hooley & Sanders, Law & Allen, Wills & Anderson.

The Architectural Association of Ireland have formally recorded their sense of the great loss which the nation has sustained by the death of Her Majesty Queen Victoria, and their sympathy with His Majesty King Edward VII. and the Royal Family in their bereavement.

The President and several members of the Royal Academy have petitioned the London County Council to oppose the Charing Cross, Euston and Hampstead Railway Extension Bill, so far as it affects Hampstead Heath. They add:—"We should deplore any tunnelling under the Heath, and the erection of any railway stations and other railway buildings within the boundaries of the Heath, the wild aspect of which is of incalculable value to London and to all lovers of natural beauty."

Messrs. Webster & Wood are preparing working drawings for a transporter bridge across the Mersey between Widnes and Runcorn. As far back as 1825 Telford, the engineer of the Menai Bridge, prepared a design for a bridge over the river, but it failed to attract sufficient financial support.

The Property known as St. Anne's, Barnes, was purchased by the London School Board for 10,898*l.* As it was not required, it was recently sold by auction for 6,350*l.* The loss of 4,548*l.*, exclusive of auctioneer's charges, will be charged to "maintenance account."

Mr. B. F. Fletcher read a paper on "The Architecture of the Twentieth Century" before the Birmingham Architectural Association on the 8th inst.

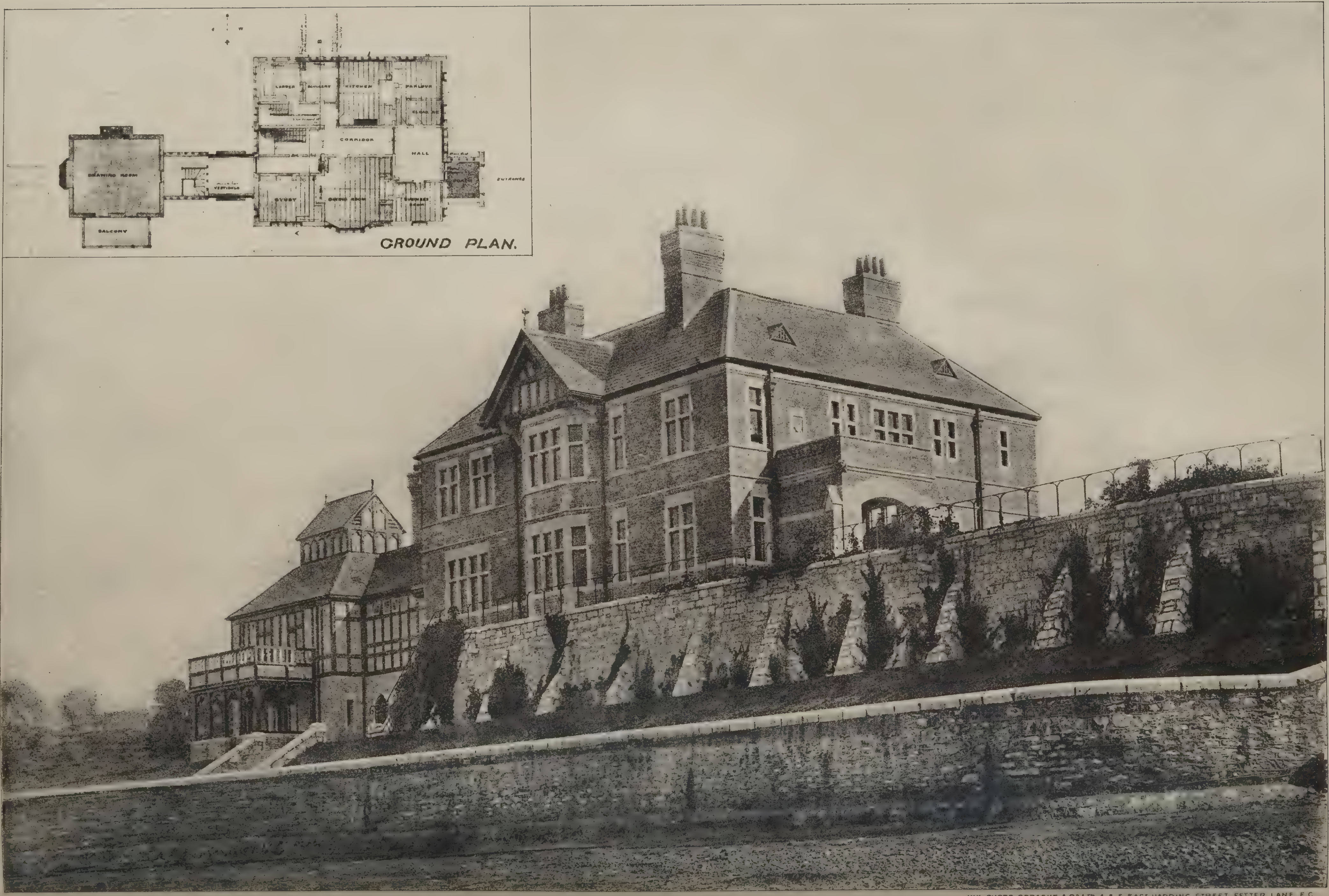
The Divers at Cerigo have discovered further statues, which cannot be brought to the surface without improved apparatus. M. Caradias, inspector-general of antiquities, speaking before the Archæological Association at Athens on the recently-discovered bronze statue of a youth, expressed the opinion that it dates from the period of Phidias. It was the most perfect and beautiful relic of antiquity yet brought to light. The Minister of Public Instruction is going to Cerigo to superintend the researches.

The Institution of Junior Engineers will hold its next meeting on Wednesday, February 20, at 8 P.M., when the "Works Management," Lecture II., will be given by Mr. A. H. Barker, Wh.Sc., B.A., B.Sc. On Saturday, February 23, at 2.30 P.M., a visit will be made to the Willesden station of the Metropolitan Electric Supply Company.

The London County Council have received 117 applications for the appointment of housing manager, with a salary of 800*l.* a year. The following candidates were submitted to the Council:—Mr. S. G. Burgess, secretary and manager to the Rowton Houses, Limited, the Middle-Class Dwellings Company, and the Wharncliffe Dwellings Company; Mr. W. C. Menzies, manager of the City Improvements Department, Glasgow, and Mr. J. Briggs, an assistant architect of the Council, in charge of the housing branch. The general purposes committee recommended, and it was agreed to by the Council on Tuesday, that Mr. Burgess be appointed.

The Ruskin Union have come to the conclusion that "one of the best forms for the Ruskin memorial would be the acquisition of the house and grounds formerly occupied by John Ruskin at Herne Hill, the formation of a settlement there, with collections of natural history and art, systematically arranged, with a suitable library, to which all teachers and serious students might have ready access for acquiring a knowledge of all subjects to which John Ruskin devoted his most earnest and useful life, and a knowledge of which is so essential to the well-being of mankind. Further, that an effort might be made to place a statue or portrait of John Ruskin in the Turner room of the National Gallery."

UNIVERSITY of ILLINOIS



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"CROWNWELL," NEAR SHALDON, DEVON.

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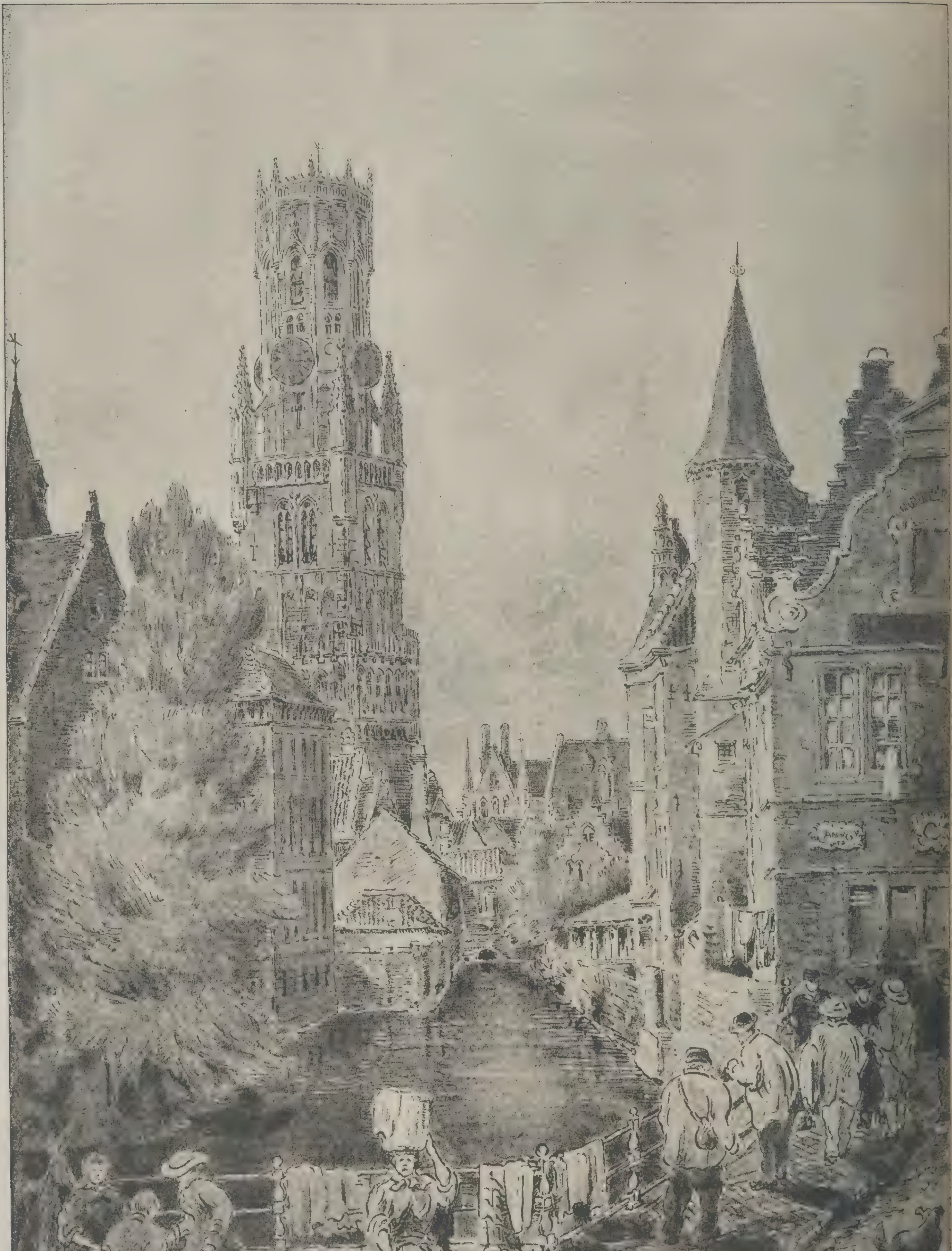

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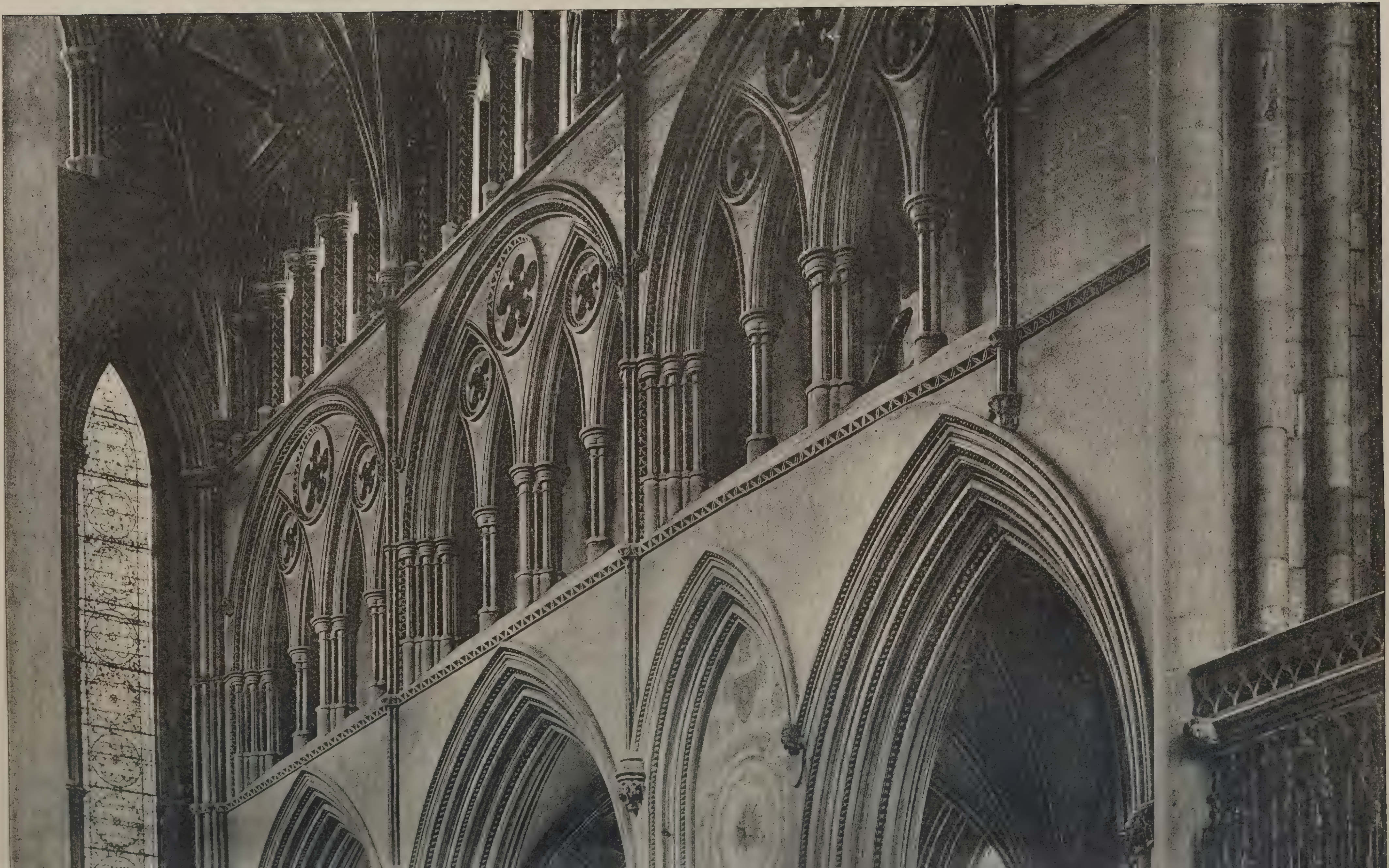
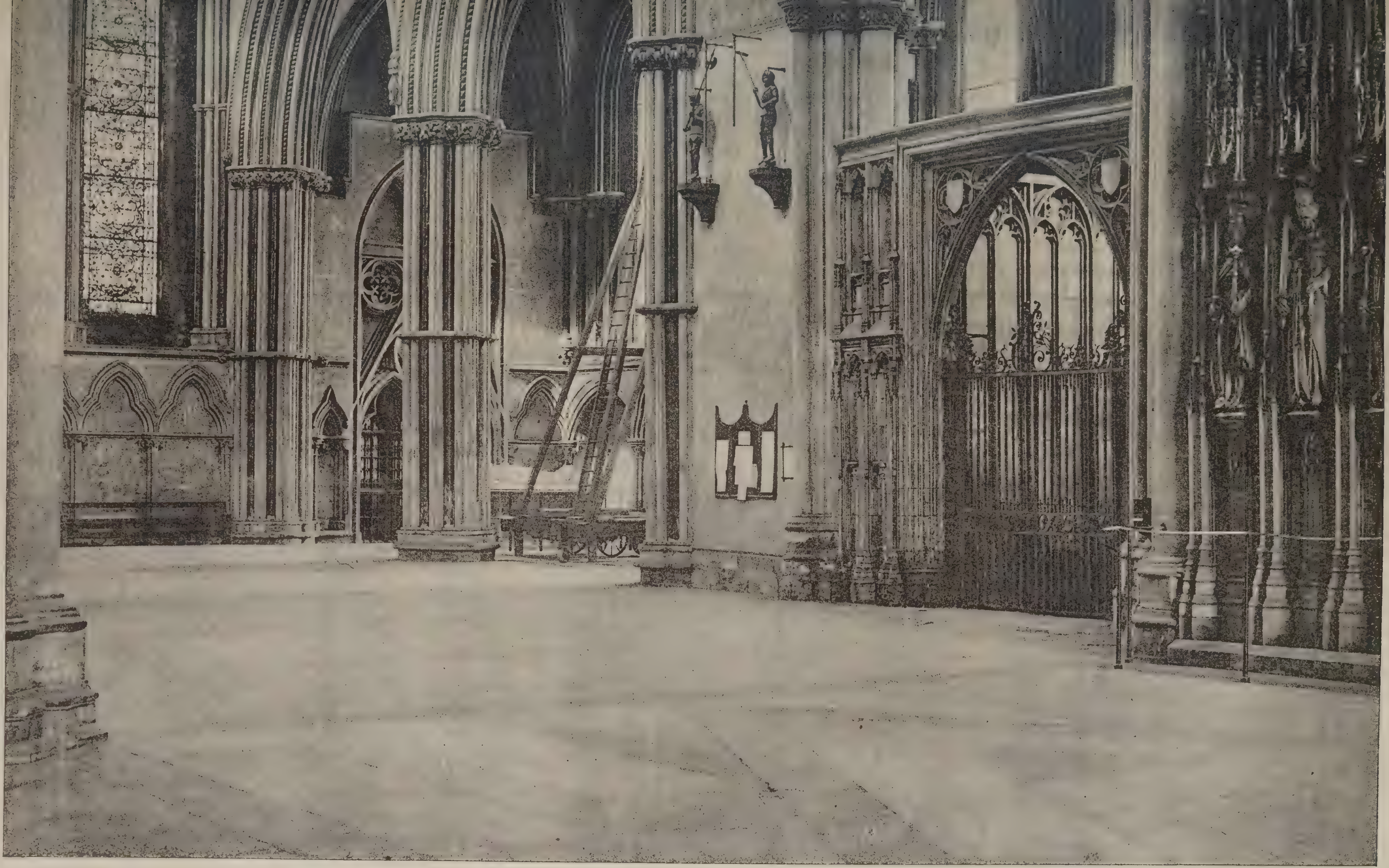
TOWER OF LES HALLES, BRUGES.
(FROM GROEN MARKT.)
Drawn by J. H. BECKETT, A.R.I.B.A.

The Architect, Feb 15th 1901





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CATHEDRAL SERIES, No. 319.—YORK MINSTER: VIEW IN NORTH TRANSEPT, SHOWING CLOCK AND TRIFORIUM WINDOWS.

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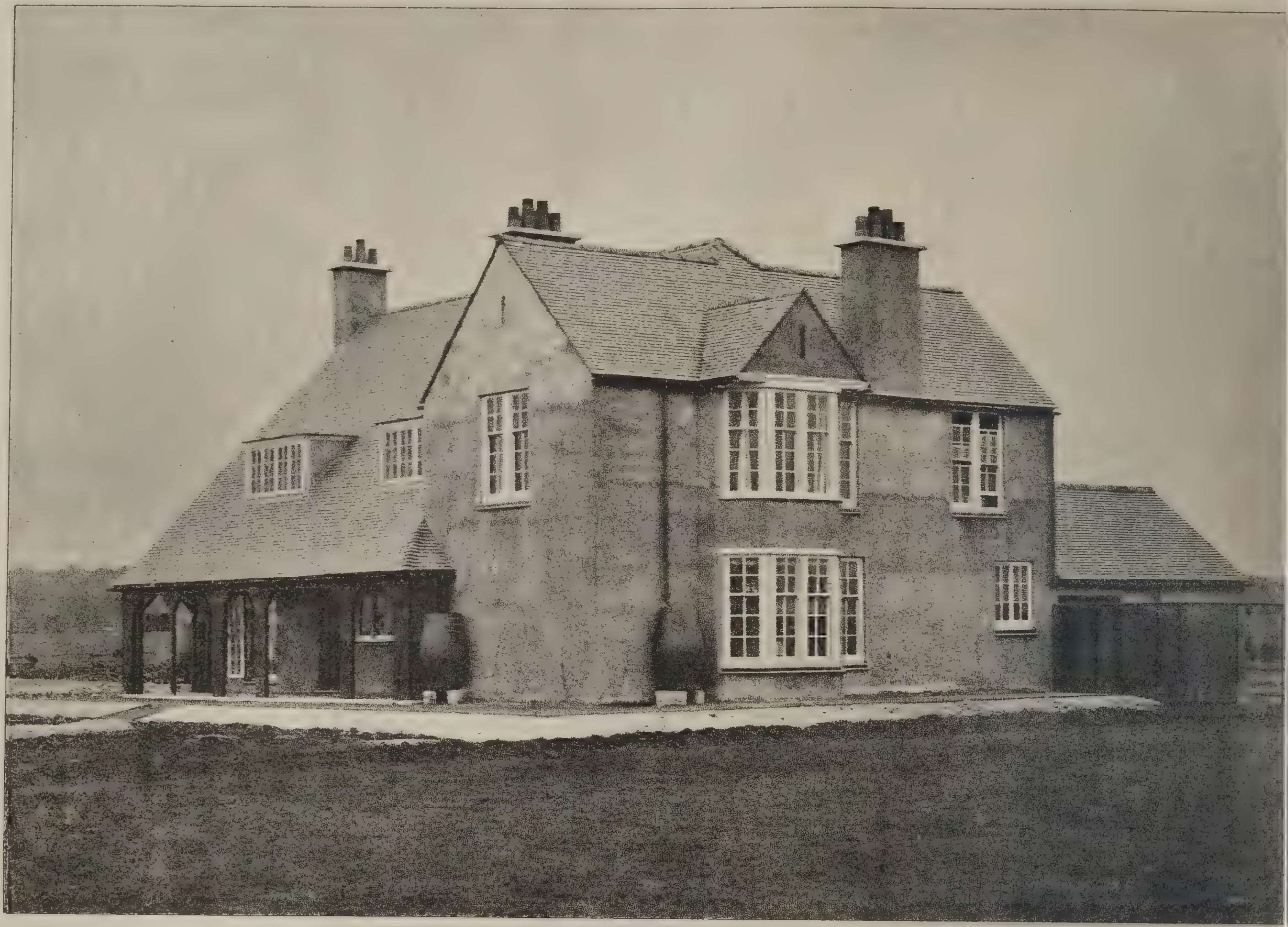
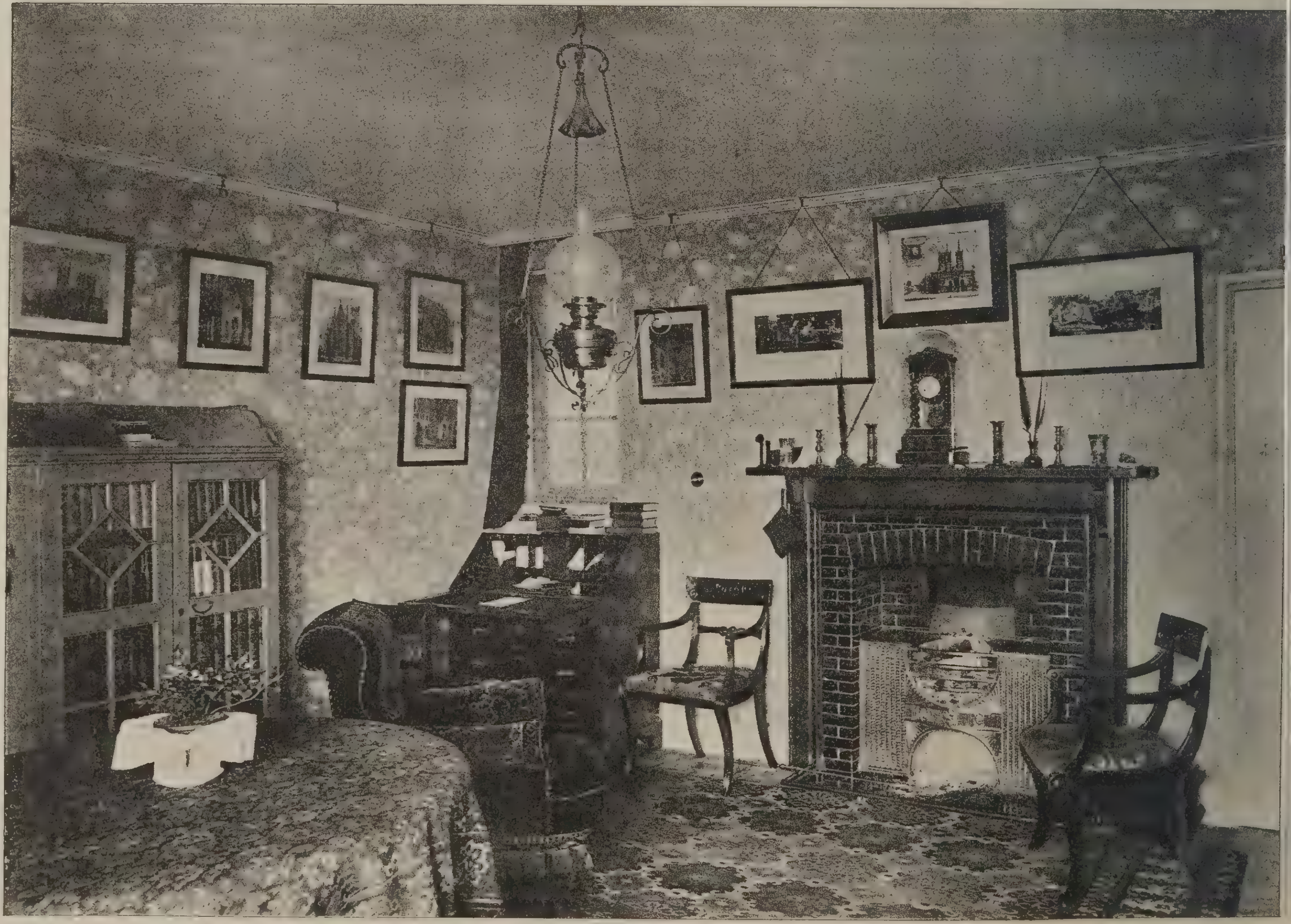


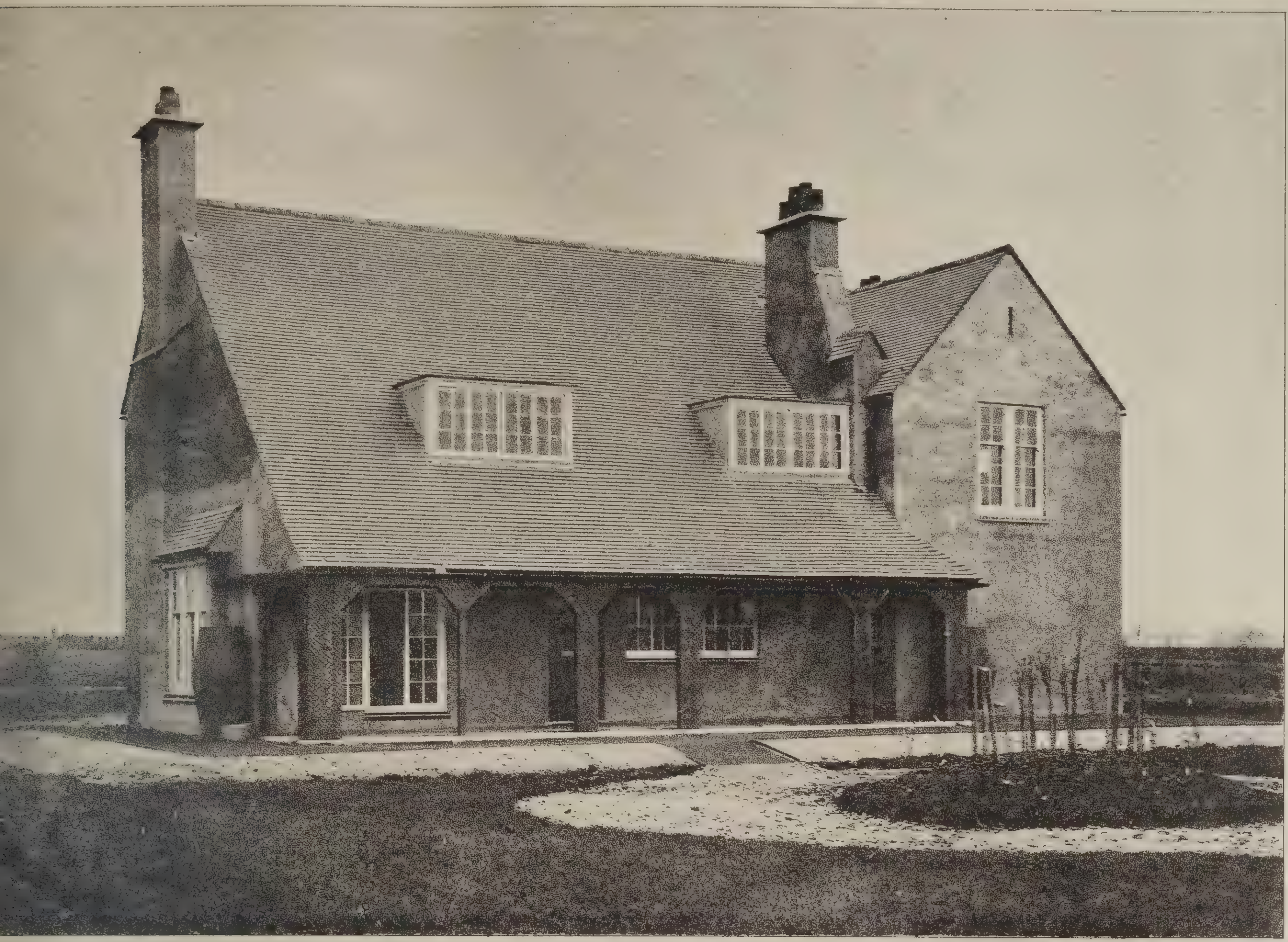
SOUTH-EAST VIEW.



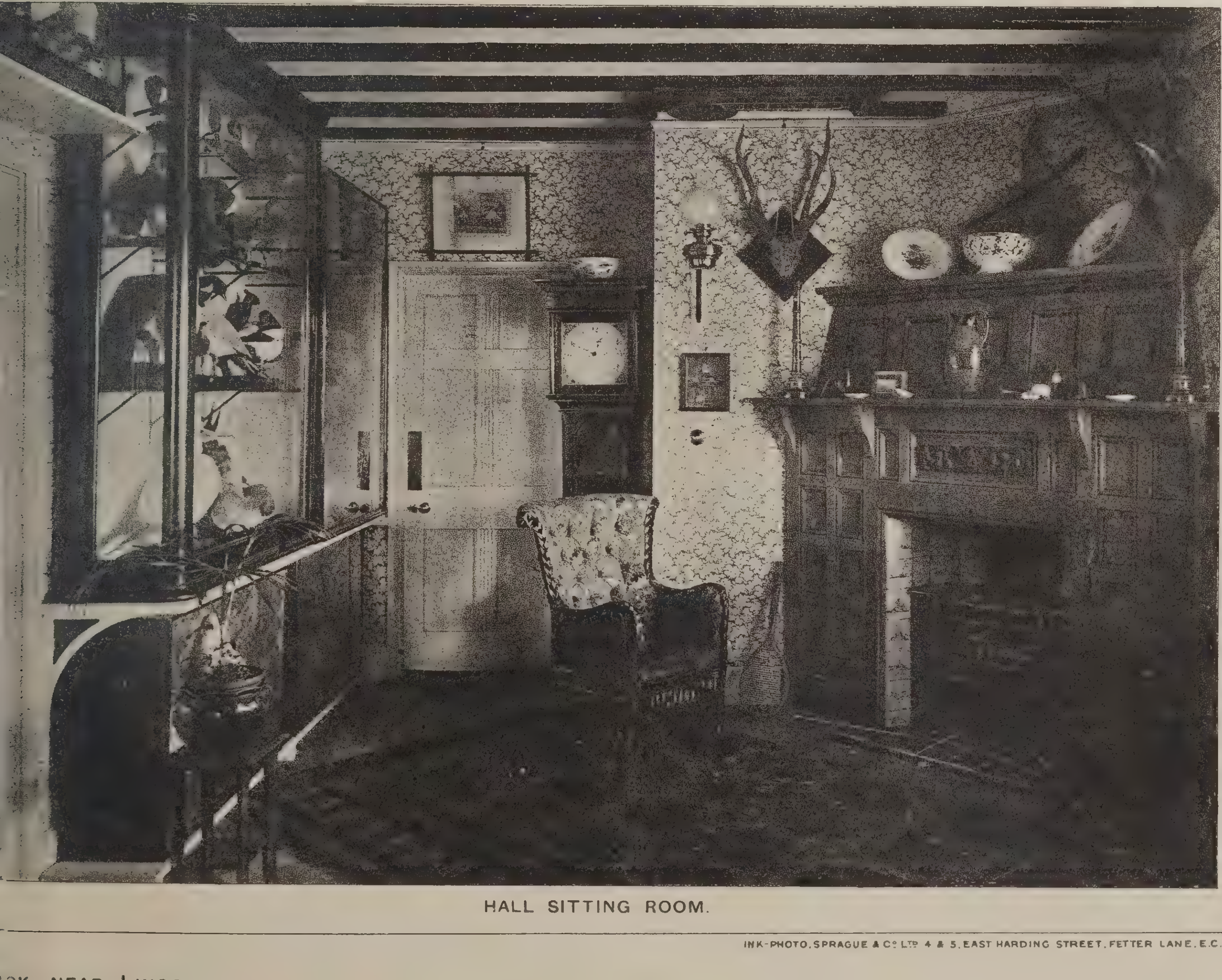
DINING ROOM.

“REDCOTE,” SWALLM

HENRY G. GW



SOUTH WEST VIEW.



HALL SITTING ROOM.

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CK, NEAR LINCOLN.

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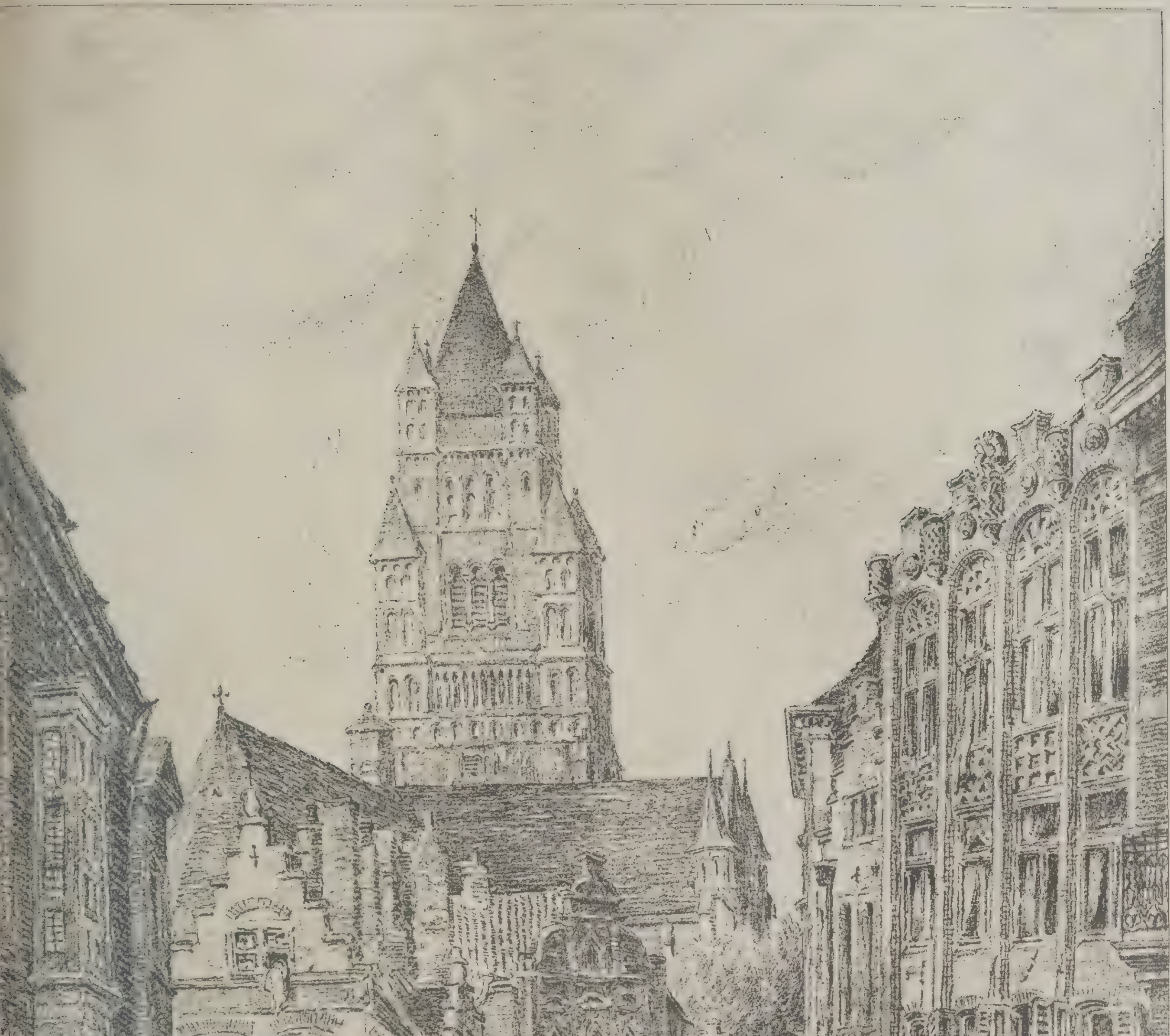

INK-PHOTO. SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C

THE CATHEDRAL, BRUGES.

Drawn by J. H. BECKETT, A.R.I.B.A.

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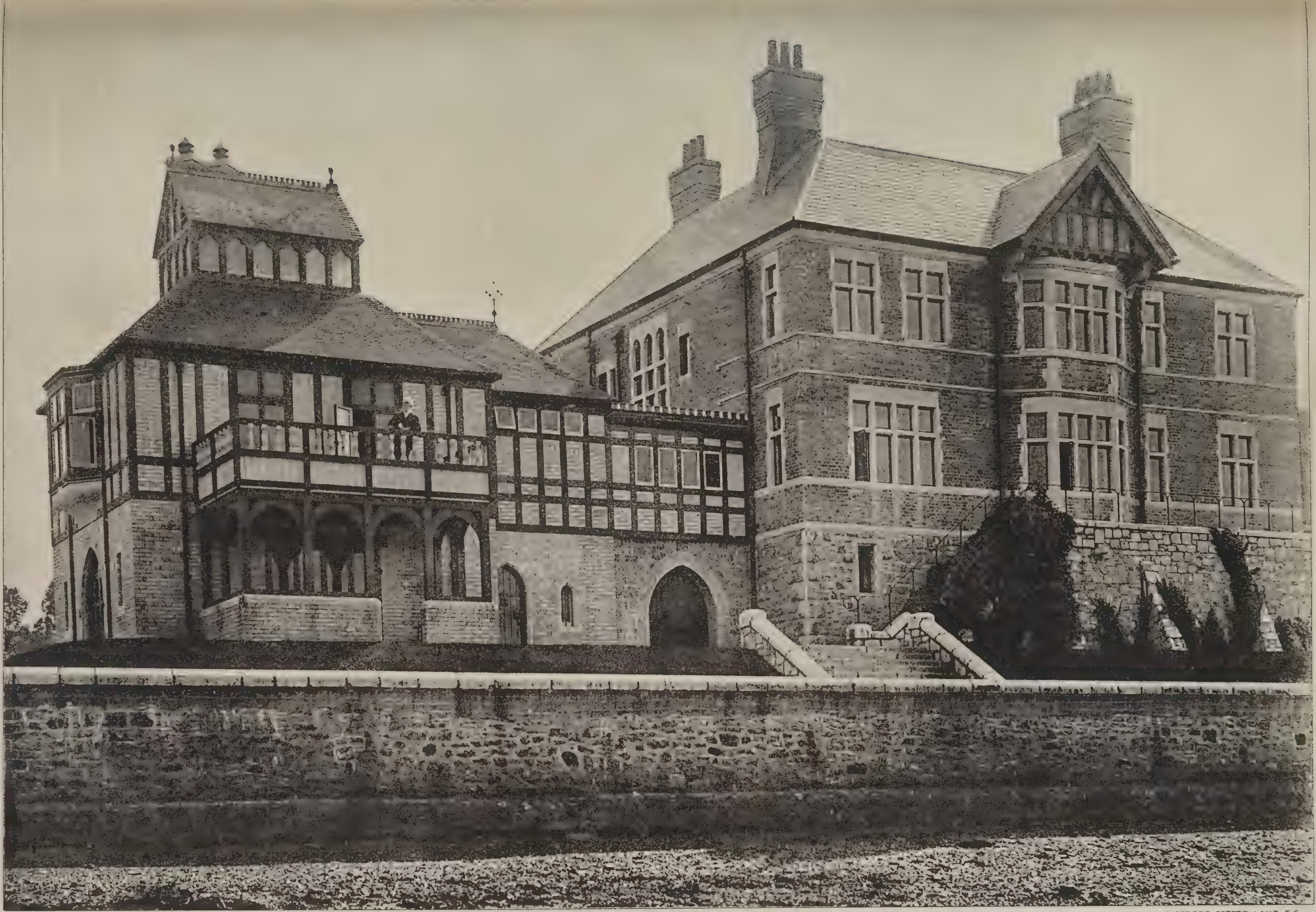

INK-PHOTO. SPRAGUE & Co. LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

"CROWNWELL," NEAR SHALDON, DEVON.

GUALBERT SAUNDERS, Architect.

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The Architect.

THE WEEK.

It is unsatisfactory that a case relating to an electric signboard which came before the King's Bench Division on appeal was decided mainly on a technical point. The sign was set up in Seven Sisters Road, Islington, and one of the allegations was that it was a projection which had not been sanctioned by the County Council. Section 73 of the London Building Act lays down certain rules as to projections. In the case in question the sign, which measured 10 feet 6 inches by 7 feet, was placed above the cornice of the shop front, and it only projected 16 inches, while the cornice was 20 inches. The magistrate who heard the case accepted the certificate of the Superintending Architect as evidence that the general line of building in the street was the main fronts of the buildings, and that an offence was committed, and it was a continuing offence. Leave to appeal was granted. The Court decided that a projection from a building means a part of a building projecting or jutting out, but it was also held that the term should not be applied to structures not being part of the building and not joining any part of the architectural structure of the building. It was stated that if the proceedings had been taken in due time liability could not have been escaped. The appellant was allowed the costs of the appeal. The decision of Mr. Justice Bruce and Mr. Justice Phillimore will give an impetus to the setting up of announcements which have a most injurious effect on the architecture of the buildings on which they are placed and on those contiguous to them. It was too readily assumed that the erection of sign-boards would be restricted in future through the operation of the last Building Act, but so long as the most advanced part of a cornice is assumed to be the general building line there is full scope for the erecting and letting of as many sign-boards as the frontage of the house will accommodate.

Prior to 1886 it was the custom that the works which were prepared in the competition for the Prix de Rome in all classes of art should be presented without any names being inscribed on them. When the number of competitors was so limited, and as all the works were produced in one place, viz. the Ecole des Beaux-Arts, there could not fail to be various ways of identifying the young artists. Since 1886 each work has had to bear the name of whoever produced it, and to be countersigned by one of the professors. The Académie des Beaux-Arts, have decided that henceforth the old system is to be reintroduced. The works will be all anonymous. A public exhibition of them will be held during three days prior to the awarding the prizes and on one day after the judgments have been delivered. But it is unlikely that public opinion can have the slightest effect on the judges. It may be supposed by outsiders that the plan will insure greater impartiality; but as the custom of signing names has worked well there is likely to be some commotion among the students and their friends.

Although Americans are busily engaged in exploring Greece and Egypt, they are not indifferent to the claims of archæology in various parts of their own country. Some archæologists and students from Utah have been lately engaged on explorations and excavations in the Garcia Valley, in the State of Chihuahua. Professor Cluff, who is in charge of the operations, has given the following report of what was accomplished:—"We found a great number of mounds in the Garcia Valley, the date of which is unknown. In the mounds which we excavated we found some well-built houses made of stone, well plastered and most of them having cement floors. The houses usually consist of two to four rooms, though some of them were larger. The houses were always in groups or villages, never alone. The whole side of the mountain had evidently been under cultivation, and every ridge had a line of houses. In front or at the side of each house we found a wall or terrace from 1 to 6 feet high, which had been levelled and used evidently as a garden spot. Down the hillsides and along the ravines we found these terraces at regular intervals. They had apparently served as reservoirs for the valley below. In the houses we found crockery, stone implements and invariably charcoal. In a cave we found some scraps of excellent woollen cloth, and also of a flax or linen cloth. It is clear to us from our investigation that the cave-dwellers and the mound-dwellers were the same people."

Railway and other companies who have acquired "wayleaves" by purchase are likely to be troubled by a judgment which Mr. Justice Byrne has given in the Midland Railway Company *v.* White. The defendant owned the surface of land over the Thackley Tunnel, at Idle, in Yorkshire. The company had paid a nominal rent in order to be allowed to have telegraph lines and poles over the tunnel. These were about to be removed by the defendant, and the company applied for an injunction to restrain him. Mr. Justice Byrne was of opinion that the defendant had acquired by possession a title to the land, and therefore refused to grant the required injunction. Moreover, the company are to be restrained from trespassing on the land, and the telegraph lines are not to be erected. But the judgment is not to come into force for six months.

When it was found that the steel bridges for the Soudan had to be obtained from America there was much commotion in British steel works and bridge-makers' yards. Explanations were given which made it plain that the competition between English and American engineers was not on uniform conditions. The English contractor dare not alter the pitch of a rivet, while the American was able to completely transform the designs, or rather to substitute his own. But with the majority of people it was concluded that the English engineering trade was conducted on antiquated principles. The moment was therefore opportune for the *Times*, with its usual sagacity, to arrange for an investigation into the manner in which many varieties of engineering work are carried out in the United States. The letters of the Commissioner attracted all the attention they merited. They have all now been published in a small volume, with the title "American Engineering Competition," by Messrs. Harper Brothers, of London and New York. Works in steel are the main consideration, and the freedom enjoyed by American producers of the material can be exemplified by one passage, which runs as follows:—"The energy with which Americans 'make' business is remarkable. Steel-makers are always trying to force people to use steel; they manufacture markets out of nothing. If an architect says he cannot put steel in place of wood, the steel-maker employs an expert to show it can be done. He does not sit down and abuse the architect for his want of enterprise, but sets to work to force his hand. This is how the Carnegie staff of designers of steel buildings was called into existence." It was by those tactics the Soudan bridges were secured. The official plans were not abused, but it was shown that time would be gained if the forms which were available in the American yards were substituted. The book will be appreciated for the comprehensive view it gives of one important industry, or rather of several, and it should be carefully studied by all who are anxious that Great Britain should hold its own in the engineering work of the future.

A paper was read by Mr. J. P. Alison, architect, at the meeting of the Hawick Archæological Society on Tuesday, descriptive of the foundations of a chapel found in the graveyard at Hermitage Castle, in Liddesdale, about 15 miles from Hawick. The remains of the chapel had been accidentally discovered during an excursion to the castle. The building measures 51 feet 7 inches long by 24 feet 2 inches wide. The width between the buttresses is equal, with one exception. Dog-tooth and other ornamentation was found to have been largely used. The chapel belongs to the Early Pointed period, which lasted from 1189 to 1272, with no transitional work about it, either of the preceding or the following period, unless the round top of window. In its details the building was very simple, indicating that it was early. Mr. Alison considered the building had been erected about 1220.

RADIATING STREETS.

THE ingenuity of the French in planning is proverbial. When it was decided to abandon the rectilinear arrangement of international exhibition buildings in favour of one which was almost circular, architects and specialists bestowed on the novel plan of the Paris Exhibition of 1867 an abundance of praise. The late Sir Digby Wyatt was amongst them. As he pointed out, the only drawback was the absence of one of those great vistas which were found so successful at Hyde Park in 1851. The plan of the Exhibition of 1867 consisted of two semicircles, which were separated by right lines in order to form an oval. In the middle of the longer axis was a garden approached by two vestibules, which was the best substitute for a vista that could be obtained. The outer line of the oval was arranged with stalls, and the interior space between the outer line and central gardens was also laid out in a series of smaller ovals, which were crossed by avenues leading from the central garden. By the arrangement it was easy for a visitor to pursue the study of any section of industry by following the course of one of the concentric avenues, or the works of various countries could be compared by following the avenues which ran from the central garden. It was believed that the idea came from the able but unlucky "Plon-Plon," the Emperor's cousin, and on that account a great many Frenchmen felt bound to disapprove of it. It was, however, nothing more than a new application of the circular plan, with radial divisions, which has had many advocates. Circular libraries, circular hospitals, circular legislative chambers, circular churches have all had their champions, and under certain circumstances there can be no doubt they offer unquestionable advantages.

The latest proposal for the utilisation of the radiating principle, which is the essential element of all circular plans, comes from Mr. A. J. Balfour. It arises out of the housing problem, which is so important for the Metropolis as well as for many provincial towns. The First Lord of the Treasury having received a copy of Mr. C. Booth's essay on "Improved Means of Locomotion as a Cure for Housing Difficulties in London," has given some attention to it. While recognising the importance of better means of locomotion, he points out that no system can be considered as perfect. Tramways, railways and "tubes" do not, he says, exhaust the catalogue of improvements in transit, and he doubts whether in a few years hence they will find most favour as means of communication for relatively short distances. "What I should like to see carefully thought out by competent authorities," says Mr. Balfour, "would be a system of radiating thoroughfares, confined to rapid (say 15 miles an hour or over) traffic (this is absolutely essential), and with a surface designed, not for carts or horses, but for some form of auto-car propulsion." In such a thoroughfare, he adds, "there would be none of the monopoly inseparable from trams, the number of people carried could be much larger, the speed much greater, the power of taking them from door to door unique, while there would be none of the friction now caused when the owners of the tram lines break up the public streets." It is a matter for regret that Mr. Balfour did not indicate on a map of London the direction of some, at least, of his radiating thoroughfares. It would be necessary for such lines of communication to have a fixed centre, although it need not necessarily be reduced to one point. In the Paris Exhibition to which we have already referred, the alleys radiated from a long central or axial garden. In the Metropolis, a part of the City about the Bank could be assumed as taking the place of the garden. But the question arises, Would it be necessary to make a great many new thoroughfares which would be specially adapted for the use of motor cars? That is one important difficulty, and it is likely to complicate all schemes for street improvements in London. London cannot be considered at the present time as displaying any frank recognition of the radial principle. In an indirect way all streets lead to the Bank as the centre of London. But Queen Victoria Street, although it is of comparatively late construction, is for a great part of its length laid out on a curve, and a Parisian would say it merely lost itself at Blackfriars. The only line of communication that can be called a great thoroughfare is the one made up of the Bayswater Road, Oxford Street, Holborn, Newgate Street and Cheapside. But Newgate Street is too narrow, and the traffic frequently becomes blocked near the Post Office.

In most of the schemes for street improvements which have appeared of late years it has been found necessary to adopt a series of centres, and the new roads leading from them, although most costly, do not present the radiation which is observable in a city like Paris. A plan of Paris since it was Haussmannised might be taken as representing some new American city where the shortest distance between two points was secured in all directions, as if there were no financial or other obstacles. Mr. Balfour seems to be of opinion that radiating lines are sufficient, but it is essential that they should be connected with lines running in another direction, as was the case in the Paris Exhibition, which may be taken as a model on a small scale of a normal disposition of streets. In Paris triangulation is observed to a marvellous extent, and every apex can be considered as a centre of radiation. This is to be seen at a glance by anyone who will stand on the steps of the Madeleine or the Opera House. At the latter the exigencies of triangulation made it necessary that the two great blocks of buildings which flank the Opera House should be triangular on plan.

It may be doubted whether it will ever be possible in London to imitate the Parisian method of laying-out streets. Radiating thoroughfares are indispensable if there are to be cavalry charges and artillery has to be called in to mow down rebels. But we may congratulate ourselves that a necessity of the kind is never likely to occur in London. The excellence of the Paris system testifies not only to the skill of Baron Haussmann and his lieutenant, M. Alphand, but to the absolute power which Napoleon III. exercised. The number of years during which the Boulevard Haussmann was left incomplete, and without a proper outlet, after the downfall of Imperialism, serves to show that convenience alone did not inspire the opening out of new thoroughfares in Paris.

If, as Mr. Balfour proposes, some of the radiating streets should be reserved for motor cars and the like, it would be necessary to adopt special means of construction. Continual traffic by that means of propulsion would not be adapted for ordinary paving, and we suppose, out of respect for the new locomotives, the streets would not be pulled up as often as they are now, and subways would consequently be required. In fact, the construction of the streets would be unusually costly. On the other hand, the buildings which would line the streets along which motor cars passed would have to be of a special class, or, in other words, they could not be well used for residential purposes. Whatever may be the merits of the motor car its noisiness is unquestionable. The prospect of having to live in a street traversed by crowds of them would not be agreeable. But if warehouses were erected probably there would be not much inconvenience. On several accounts, therefore, Mr. Balfour's radiating causeways cannot commend themselves to inhabitants of the Metropolis. But we agree with him when he says that "the present difficulty of locomotion in our streets is almost entirely due to want of differentiation in the traffic. We act as the owners of a railway would if they allowed luggage trains, express trains and horse-drawn trams to run upon one pair of rails." The evil is, however, remediable. It is an absurdity to find heavy waggons laden with goods, it may be for some out of the way railway station or warehouse, travelling at a slow pace along the principal thoroughfares and obstructing traffic which should be expeditious. Unless the goods were to be delivered at shops in streets like Cheapside, Fleet Street or Newgate Street, waggons ought not to be allowed to go along those highways unless at hours when they would cease to be obstructive. By the sacrifice of a little time it would be possible for them to pass through streets which are rarely crowded. Trade interests would of course be declared to be jeopardised if any regulation of that character were insisted on, and drivers would require to be occasionally fined before they would depart from the courses they have long followed. But the convenience to the public in general would be immense if such a differentiation were made compulsory.

As Mr. Balfour has not ventured to be definite in pointing out where his causeways should run, perhaps property owners in London need not trouble themselves about the risks which follow every alteration of streets. It is easy to say that in the new streets "the upkeep would be small; there would be no terminal charges; no great areas would have to be cleared, as in the case of railways, for stations and sidings; the local authority which made the causeway would not be compelled to become managers of great railway enterprises; the rolling-stock would be provided by the public to suit its own needs; and as the causeway would be connected at intervals with the ordinary road and street system of the district, and would melt into that system at either end, every village in which there were enough residents who had to be in London at a fixed hour every day could have a motor of its own." But experience has proved that a new street cannot be opened out in London without involving the inhabitants in expenses which are seldom recouped. The length of time occupied by the London County Council in endeavouring to arrange for a public thoroughfare between the Strand and Holborn indicates the embarrassments which would arise if radiating causeways were laid down in various parts of the Metropolis. In fact, with all respect for the spirit which has animated Mr. Balfour, it seems to us that his solution of the housing problem is not more satisfactory than those of many other projectors.

"A ROMANCE IN STONE AND LIME."

THE buildings which Sir Walter Scott called his "romance in stone and lime" have been often described, but the circumstances connected with the erection of Abbotsford are almost forgotten. It may therefore not be irrelevant to narrate them, especially at a time when many people are contemplating a visit to the Glasgow Exhibition, and intend to utilise the opportunity for a run through what is now known as "Scott's Country."

It will seem strange to some of them how Scott, who was not a rich man, was able to live away from Edinburgh, where he was occupied with professional and official duties. He loved the stones of his "own romantic town." He was born in one of its wynds; he was taught in its high school; he studied in its college; it was in Edinburgh he was apprenticed to his father as Writer to the Signet, and it was as an Edinburgh advocate he hoped to distinguish himself. But soon after his marriage Scott, who was not altogether satisfied with his progress at the Bar, sought and obtained the appointment of Sheriff-Depute of Selkirkshire, with an annual salary of 300*l.* It was a condition of the office that he should reside for at least four months in the year in the district where his jurisdiction was exercised. He endeavoured to evade the regulation, which must affect his practice as a lawyer, but without success. Accordingly he became the tenant of a house known as Ashestiel, belonging to a cousin of his own, who was in India. It was only a few miles from Selkirk, and stood on the south bank of the Tweed. Some of the happiest years of Scott's life were spent in Ashestiel While there he completed "The Lay of the Last Minstrel." That "Marmion" was written in the house is evident from the introduction to some of the cantos. The "Lady of the Lake" and "The Vision of Don Roderick" will also be associated with the spot. Many of his important prose works were composed in its rooms, and there also was arranged the unfortunate partnership of Ballantyne & Co., which, if it was a cause of the production of the Waverley Novels and romances, ultimately brought about the financial ruin and premature overthrow of the author.

When the lease of Ashestiel came to an end after seven years had expired, Scott considered it would be wiser, as he was making money by his books, to purchase a piece of ground sufficient for a cottage, with a few fields. Two small farms were obtainable at the time, but his finances enabled him to purchase only one of them at a cost of 4,000*l.* It contained about 100 acres; a large part of it was heath, and the remainder was in a neglected condition. The farmhouse which was to be Scott's residence was small and poor, with a filthy pond in front, from which the place was known as Clarty Hole. But the land stretched for about half a mile along Scott's beloved Tweed, and he came to the conclusion that although it was not valued by farmers it was well adapted for planting. The poet was an enthusiast for trees, and loved to repeat the old laird's saying to his son:—"Be aye sticking in a tree, Jock—it will be growing whilst you are sleeping." His ambition at the time of buying the land did not go beyond the erection of a small cottage which would serve for his residence. There were to be no more than two spare bedrooms with dressing-rooms, each of which could in an emergency hold a couch bed. Cousins and duniwastles were expected to sleep in chairs, on the floor, or in the hay-loft.

The arrangements for the commencement of the cottage began in a somewhat curious way. At the time one of the actors in Henry Siddons's Company at the Edinburgh Theatre was Daniel Terry. He was trained as an architect, but he could never have practised, for at an early age he took to the stage. Through the Ballantynes he became acquainted with Scott. His fondness for old plays and antique odds and ends were passports to the author's favour. Besides, he flattered Scott by endeavour to imitate him. His handwriting became so like Scott's, the poet could not decide whether a document written by Terry was not from his own pen. He assumed Scott's expression and mode of speaking, and the ambition of the player was to be identified as an *alter ego* of the great man. Terry advised Scott about the arrangement of the cottage and grounds, and when the actor obtained an engagement in London he continued to serve as his architectural adviser. Scott in return was liberal with his advice to Terry. He subsequently lost a comparatively large sum through his friend's failure as lessee of the Adelphi. Terry, being unable to devote his whole attention to the work, or it may be honestly feeling incompetent to design a building which was to serve for the great man's residence, he advised Scott to apply to Mr. Stark, of Edinburgh, for plans of "an ornamental cottage in the style of the old English vicarage house." The plans were prepared, but Mr. Stark died before they were carried out. Scott was left to himself, and for many reasons that was unfortunate.

As a poet Scott differed from the majority of his predecessors by his love of buildings. He could not describe feudal life without including the castle, which might be regarded as the central point of the warlike attacks and defences which were characteristic of the period. Abbeys and churches were almost as important from the same point of view. One of the causes that make people undervalue Scott's poetry is the attention that is given to the inanimate forms of the mason. His description of Melrose is known to schoolboys, but it is astonishing how many other buildings, both secular and religious, are introduced in the poems and set out at length with similar affection. All the buildings he described were realities and not "châteaux en Espagne," and it was therefore excusable that when he saw his masons at work, and being without any restraining force in the shape of an architect, Scott should allow his imagination the fullest play, and wish to make Abbotsford an epitome, as it were, of Scottish baronial architecture. The creator of romances aspired to have another in stone and lime, with "every outline copied from some old baronial edifice in Scotland—every roof and window blazoned with clan bearings, or the lion rampant gules, or the heads of the ancient Stuart kings." It is also possible that Scott had a laudable affection for building. When the authorship of the Waverley Novels was kept secret the Ettrick Shepherd came to the conclusion that Scott was the Great Unknown, because he recognised in Colonel Mannering many of the characteristics of the Sheriff. Now Mannering had a weakness for drawing plans. The new house at Ellangowan he intended to erect was to rival in magnificence the ancient buildings; a copy of the Eagle Tower at Carnarvon was to be a part, and it was a pleasure to him to have the prospect of laying out his rupees on the work. Imagine Scott as a rich man, and he must have acted likewise.

In May 1812 Scott removed from Ashestiel to Abbotsford, which was a distance of about five miles. He describes the motley procession of twenty-four cartloadns which old swords, bows, targets and lances made a conspicuous show, besides dogs, pigs, ponies, poultry, cows, calves, bare-headed wenches and bare-breeched boys. But at Abbotsford the accommodation which awaited the owner was very limited. A dozen masons were still busy. Only one room could be occupied, and it had to serve for dining-room, sitting-room, schoolroom, as well as study. But amidst all the confusion he was able to produce poetry with apparent facility. He varied his intellectual pursuits by planting and other rural occupations. At the time Scott believed he was warranted in undertaking expensive work. He had filled the office of Clerk of Session in Edinburgh without receiving payment; but soon after he came to Abbotsford he succeeded in obtaining the full salary, and his income was then about 2,000*l.*, irrespective of profit from his literary labours. But a man so richly endowed with imagination was likely to treat that sum as if it were 20,000*l.* In 1813 he was already negotiating for more land. Immediately afterwards he was arranging for the purchase of a splendid lot of ancient armour, although by his own confession he had no room to contain it. By 1816 the estate had increased from about 150 to 1,000 acres, and although the ground was wild and uncultivated he was willing to pay fancy prices for every acre he acquired.

The progress made in the residence is shown by a letter which Scott wrote to Terry towards the end of 1814, in which he says:—"Abbotsford begins this season to look the whimsical, odd cabin that we had chalked out. I have been obliged to relinquish Stark's plan, which was greatly too expensive. So I have made the old farmhouse my *corps de logis*, with some outlying places for kitchen, laundry and two spare bedrooms, which run along the east wall of the farm court, not without some picturesque effect. A perforated cross, the spoils of the old kirk of Galashiels, decorates an advanced door and looks very well. This little sly bit of sacrilege has given our spare rooms the name of the chapel." This is the first intimation we have of the employment of ancient remains in Scott's residence. His affection for Melrose did not prevent him from undertaking raids from time to time in order to carry off carved stones, and he was always ready to find a place for fragments of Gothic structures. Scott treated his novels and his buildings on the same principle. He enriched his books with quotations from ancient authors, and Abbotsford contained work which was abstracted from as many ruins or old-fashioned buildings as were accessible. Those who were responsible for them were glad to aid him, as if historic remains were mere rubbish.

Although he rejected the design, Scott had much admiration for Stark, on whose death he said that more genius had died with him than was left behind among the collected universality of Scottish architects. But we doubt if the Playfairs, Hamiltons and Burns of Edinburgh were much troubled about Scott's opinion. For although he loved architecture, and especially the Mediæval variety, it is problematical whether he really understood the characteristics which belonged to any particular style, or cared much if inconsistencies were introduced, so long as more or less picturesqueness was obtained. For instance, in one of his letters he mentions that George Bullock, who dealt in curiosities and got up the Egyptian Museum in Piccadilly, visited Abbotsford at the same time as Edward Blore, the architect. The two men had little in common, but Scott writes:—"I have had the assistance of both these gentlemen in arranging an addition to the cottage of Abbotsford, intended to connect the present farmhouse with the line of low buildings to the right of it." Then he says that Blore had drawn a very handsome elevation both to the road and the river. Terry, to whom he was writing, was next informed that Scott expected to get some decorations from the old Tolbooth of Edinburgh, particularly the cope-stones of the doorway and a niche or two.

Although Bullock and Blore appear to have gratified Scott, in a few months we hear of Mr. Atkinson, of St. John's Wood, as his architectural oracle. He had erected a mansion for Scott's friend, Lord Montagu, and he was evidently at once invited to have a hand in the new romance of stone and lime. Scott credits him with having found out "a practical use for our romantic theory," whatever that may mean. In describing Abbotsford he adds:—"We are attempting no castellated conundrums to rival those Lord Napier used to have executed in sugar when he was Commissioner, and no cottage neither, but an irregular somewhat like an old English hall, in which your squire of 500*l.* a year used to drink his ale in days of yore." Critics of the present time would not see much difference between Abbotsford and sugar-baker's architecture.

In October 1818 Scott was able to invite some of his friends to his new home. Lockhart, who was one of them, thought it had a fantastic appearance; he relates how Scott "expatiated *con amore* on the rapidity with which, being chiefly of darkish granite, it was assuming a time-honoured aspect." After dinner Scott wished his friends to have a moonlight view of the valley from the western turret. Strangers among the guests ascended, but those who had made the experiment held back, for the beauty of the scene which awaited them was no compensation for toiling up the dark, narrow and steep stairs.

One of the reasons for the fragmentary construction was the varying state of Scott's exchequer. He was continually devising expedients for raising cash through the agency of the Ballantynes, and if money did not come in quickly he did not evince much ardour in completing the building. For instance, in 1819 we find him writing:—"The addition to my house is completed with battlement and bartisan, but the old cottage remains hidden among creepers, until I shall have leisure—*i.e.* time and money—to build the rest of my mansion, which I will not do hastily, as the present is amply sufficient for accommodation." But in little over a year we find he had obtained plans from Mr. Atkinson, which were in a great measure carried out. Many parts, however, were Scott's own conception, which his builders, Messrs. Smith, of Darnick, were able to realise for him. Scott was so fanciful, it must have been no easy task to meet all his propositions. He testifies to the trouble he must have given his architect in a letter to Lord Montagu, in which he says:—"It is worth while to come, were it but to see what a romance of a house I am making, which is neither to be castle nor abbey, but an old Scottish manor-house. I believe Atkinson is in despair with my whims, for he cries out *Yes-yes-yes* in a tone which exactly signifies *No-no-no, by no manner of means.*" Messrs. Smith, like all the people in the neighbourhood of Abbotsford, were anxious to gratify Scott, of whom they were proud as an official no less than as a poet. On his side Scott appreciated their excellence as builders. When in 1826 he was in Paris, they were recalled to his recollection. He noted in his diary:—"I contrived to amuse myself with some masons finishing a façade opposite to me, who placed their stones not like Inigo Jones, but in the most lubberly way in the world, with the help of a large wheel, and the application of strength of hand. John Smith, of Darnick, and two of his men would have done more with a block and pulley than a whole score of them."

The best builders cannot, however, compensate for the absence of any definite plan. Abbotsford was like the objects within it, and might be described as a miscellaneous collection. The humble folk of the district were even able to recognise the incongruities. A weaver poet who was officially the interpreter of the minds of the operative classes of Galashiels, when inviting Sir Walter to return among them, referred in one verse to the new mansion as follows:—

> We wish you luck o' your new biggin',
> There's no the like o't on the Tweed;
> Ye'll not mistak it by its riggin'—
> *It is an oddity indeed!*

It is worth mentioning that Messrs. Smith were the authors of a communication which appeared in the first volume of the Transactions of the Institute of Architects. Application for information on various subjects had been sent to builders throughout the country. Messrs. Smith's account of a suspension bridge erected by them over the Tweed at a cost of 500*l.* was judged to be worth printing.

A group like Abbotsford could be continued for an indefinite time. If it were not for the losses to Scott by the failure of the firms with whom he was associated he would have continued expending money on additions as long as he lived. The gathering of antiquities and curiosities was another costly hobby. The people who, when the crash came, subscribed money in order to save Abbotsford for Scott's family were not, however, impelled to do so by their admiration of it as an architectural work, or their appreciation of the archæological objects. The pilgrims who visit Abbotsford know they can see far finer buildings elsewhere in Scotland. Its attraction arises from its connection with the great magician who was able without any apparent effort to restore antiquity, and to give animation to the dead bones of feudalism for the benefit of the nineteenth century. SCOTT did much for architecture, but it was by his writings and not by the directions he gave to the Darnick masons and carpenters. For him the mansion was no doubt a great work, but it was also a symbol of his aspiration to become a Scottish chief.

There are few more melancholy stories than that of SCOTT returning to Abbotsford to die. When, a mile away, he caught a glimpse of the buildings, he sprang up in his carriage with a cry of delight. For the moment the poor paralytic recovered his old strength, and it required the efforts of three men to restrain him. When he lost sight of his home he fell into his customary stupor, but on another glimpse his eagerness was almost beyond his attendants' control. The next day he was drawn in a bath-chair around the house, and then, says his biographer:—"He desired to be wheeled through his rooms, and we moved him leisurely for an hour or more up and down the hall and the great library. 'I have seen much,' he kept saying, 'but nothing like my ain house—give me one turn more.' He was gentle as an infant, and allowed himself to be put to bed again." Some days afterwards the prolific writer passed away like a child. Although he accomplished so much he had only reached his sixty-first year. Abbotsford was for a long time the only monument to SCOTT, and with all its shortcomings it remains the most significant.

ENGLISH ARCHITECTURE OF THE NINETEENTH CENTURY.*

IT is only with a considerable sense of the responsibility and the difficulty of my task that I have accepted the invitation of the Council of the Society of Architects to review the "English Architecture of the Nineteenth Century" immediately upon its close. Writing to-day, literally January 1, in the first year of the twentieth century, it is almost impossible to divest one's self of all bias, and to approach the consideration of even one phase of the work of the most humanly complex century which the world has ever seen without it, especially when the phase in question is that which is the principal concrete reflection of the varying moods of man.

Looking dispassionately and broadly at the century which has recently been completed, it is seen to have opened for England in turmoil, poverty and privation, its people being borne up by a spirit of high patriotism. This period was followed by one of recuperation and then by rapid, at times too rapid, trade advancement, as the power of the steam-engine was developed and our coal-fields were opened up. Contemporaneously there came over the country a marvellous revival of religious feeling, both in the Established and Nonconformist Churches. Towards the close of the century these fiercely rapid movements settled down into steady commercial prosperity and generous religious tolerance, with less exuberance but more depth and solidity in both; and there has developed a still steadily advancing tendency to educate the people more and more highly, and to promote healthy municipal and family life, with comforts and elegancies within the reach of all both in their own homes and in public institutions.

There have, of course, been other influences at work, and occasionally national events, such as the Crimean War, have caused at least a temporary diversion of the trend, but upon the whole these appear to be the lines upon which a general advancement has taken place They are, too, the lines which are most prominently reflected by the architecture, and for the most part, it must be borne in mind, unconsciously upon the part of the architects who were individually concerned.

Speaking now of the century's architecture, it will be noted that the eighteenth century had seen the gradual decadence of a true English Renaissance style, and the substitution of formality and precise rule for the originality introduced by Wren and maintained by his immediate successors—alike in important buildings and in the comfortable square-brick dwellings of the middle classes. All design was based upon the Roman orders, which had been reduced to a system of precise proportions, on no account to be departed from, and this had become so entirely a fixed principle that even the discovery of the much more beautiful Classic work of Greece, with its varying proportions, had hardly shaken it.

At the commencement of the nineteenth century, consequently, all English architects were by training and education Classic purists, and were divided into two schools, Roman and Grecian, the many followers of Sir W. Chambers forming the first, and Inwood leading the second, that is, if during the first twenty years of the century England can be said to have possessed any architecture at all, for no buildings of first-rate, and very few of even second-rate, importance were attempted. Inwood, however, with his exact Grecian copyism, as in the church of St. Pancras, was destined to be followed by others who, like himself, studied Grecian architecture in Greece, and who, on their return home, erected dignified and well-proportioned buildings in the Grecian spirit—not many, but now and again one, preserving in this country for more than half the century an appreciation of the simple, the beautiful and the refined, which might well otherwise have been lost. Such buildings were the British Museum, by Sir Robert Smirke; the Liverpool Athenæum, by Thomas Harrison; the Hanover Chapel in Regent Street, by C. R. Cockerell, and St. George's Hall at Liverpool, by H. L. Elmes—this last being one of the really great buildings of the century, perfect in its proportions and in the delicacy of its details, magnificent in its scale and perfectly satisfying to the most cultured taste.

But if the Grecian school retained for England an appreciation of the choice and pure, the Roman school, capable of wider and more varied interpretation, was eventually to have the greater influence, merging as it insensibly did into a revival of pure Italian Renaissance. In this form it was responsible for the Travellers' and the Reform Clubs, by Sir Charles Barry; the Carlton Club, by Sir Robert Smirke; the Museum of Practical Geology and the west end of Somerset House, by Sir James Pennethorne; and St. Thomas's Hospital, by Henry Currey—all works of great importance and worthy of any architectural period in any country. These, it will be noted, are all metropolitan buildings, and except in London and a few of the larger provincial cities, scarcely any examples of the style of any value are to be found. Some thirty years ago, indeed, it had to fight for its very existence in the now almost forgotten but then extremely virulent "Battle of the Styles," and its exponents, then mostly old men, were apparently vanquished by the more enthusiastic and younger votaries of Gothic work.

The Gothic Revival had commenced much earlier, and at that time seemed likely to become a permanent English style. Yet, like a hothouse plant, it withered with extreme rapidity after displaying a few flowers of great beauty, and it exists no longer. Originating out of the attention drawn to our churches by the "Oxford Movement," and from the necessity of repairing and enlarging the churches and cathedrals in architectural harmony with their original design, an immense impetus to the general employment of Gothic forms was given by their adoption in the Houses of Parliament by Sir Charles Barry, who had invaluable assistance from Pugin in the preparation of the designs This truly magnificent building, a veritable "Wonder of the World," owes its greatness to other qualities much more than to that of style—to its marvellous grouping, its absolute suitability and great originality. Its style, in fact, is mixed, the general lines of the river front being essentially those of a Renaissance building; and even the Gothic detail is not above reproach if examined separately and considered as Gothic detail only, and not, as it should be, as the suitable and harmonious enrichment of one of the grandest buildings which the world possesses

The influence was first felt by directing the attention of the students of the day to the possibilities of Gothic architecture, and attained fruition when these students reached their practising manhood. Butterfield, Sir Gilbert Scott, Paley, Street, Burges, E. M. Barry, Pearson, Sir Arthur Blomfield and Bodley are a few of the names most closely connected with the Gothic Revival; but Pugin had preceded them all, and is now generally regarded as the "father" of the style. The "cross" in the courtyard of Charing Cross railway station may, though small, be taken as a typical example of his work, and in this regard well bears comparison with the larger but somewhat similar Albert Memorial by Sir Gilbert Scott.

It is, however, somewhat invidious to single out any one of Sir Gilbert's Gothic works for mention more than the others, for if Pugin was the "father" of the Revival, Scott was certainly its most prominent exponent, there being scarcely an English cathedral which he did not touch by way of restoration or some small addition, and hardly an ecclesiastical edifice in the country about which he was not in some way or other consulted. Of his original churches, the best known is St. Mary Abbotts, at Kensington, but merely from the accident of its being in the Metropolis, for many are as rich and as perfectly proportioned, and, it may be added, as mechanically exact in detail.

Irrespective of restorations, the other great ecclesiastical works of the period may be reduced to four; and though there are a really large number which are eminently satisfactory these four stand out unrivalled, while each is very different from all the others. Christ Church, Westminster Bridge Road, the work of Alfred Bickerdike, who died recently in obscurity, is an example of perfect grouping and graceful detail, worthy of the best Mediæval period; Cork Cathedral is instinct with the spirit of original conception and overflowing artistic inspiration of William Burges; Truro Cathedral is the refined result of careful study of English architecture of the thirteenth century, by J. L. Pearson; and Trinity Church, Chelsea, exhibits the strong individuality of J. D. Sedding, tempered by much sketching both at home and abroad.

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* A paper read before the Society of Architects by Mr. G. A. T. Middleton, A.R.I.B.A., on February 21.

The public buildings erected during and in accordance with the Gothic Revival were scarcely so numerous, and show by their general unsuitability that the style was a forced revival and not a true growth. Thus it is that, in spite of their great beauty, the word "unsuitable" has been used as sufficient to condemn alike the Manchester Town Hall, by Alfred Waterhouse, and the Law Courts, by G. E. Street—though in the public mind the great architectural merits of this latter work have been greatly obscured by its acknowledged defects in plan, while amongst English architects the fact that it follows French rather than English tradition has frequently led to its being only half understood. Both, however, are great buildings, and speak eloquently of an endeavour amongst the more cultured of our race to express their desire to have things graceful and beautiful around them. More generally acknowledged as a successful Gothic public building is St. Pancras station, by Sir Gilbert Scott, with its somewhat formal lines well concealed by clever grouping and the use of graceful towers, and its special adaptability to modern requirements. So far as it is formal and suitable to a modern many-storeyed building, it has been followed in many a smaller building since, but in its higher attributes it stands alone. For private houses the Revival has proved a failure, as it did for street architecture also, a notable exception being Mr. Astor's offices on the Thames Embankment, designed by Mr. Pearson.

The Natural History Museum was erected by Alfred Waterhouse about twenty years ago, in what seemed then to be the full height of the Gothic Revival, and yet marked its coming sudden termination by the evident attempt, in a building of the first importance, to evolve something fresh. In spite of the deserved popularity of its author, the first of the great Gothic revivalists to willingly break away from the employment of Gothic forms alone, and almost the only one of those great men still living amongst us, this, his greatest work, has hardly received the recognition from his contemporaries which it deserves, and which will undoubtedly be bestowed upon it by posterity. Not many English buildings display so perfectly the quality of thoughtfulness based upon ample consideration of what is best in many other countries besides our own, and combined with extremely careful colouring.

With the death of Sir Gilbert Scott in 1879, followed by the decease of Street and Burges in 1881, came the end of the energetic phase of the Gothic Revival. During the whole strenuous period it had unconsciously been but preparing the ground for something else, while the Classic and Renaissance traditions which it had apparently overwhelmed had in reality been but slumbering, and now awoke with the contemporaneous erection of the Bolton Town Hall, by W. Hill; the Glasgow Municipal Offices, by William Young, and the Brompton Oratory, by Herbert Gribble. The first of these was, at its opening, commented upon by the *Times* as "an edifice, which for architectural beauty and internal arrangement and decoration is probably unrivalled by any building in the country which is devoted to municipal purposes," an opinion which, at any rate, received endorsement in the erection of replicas at Leeds and Portsmouth. Of the Oratory it need only be said that it is incomparably the finest Renaissance church erected in England since the days of Wren.

The next architectural phase was a curious one—a rage for the quaint, induced by an over-study of the buildings in the Low Countries and the district of the Loire, in the hope of developing a picturesque style of small dwelling, and contemporaneous with the "æsthetic" craze in art generally. It would occupy too much time to consider any except works of some magnitude to-night, else a good deal might be said of the highly satisfactory domestic architecture of the last twenty years under the leadership of Norman Shaw and Ernest George. But the influence of this domestic style was felt in larger buildings, the picturesque grouping and tiny detail suiting well the comparatively small Law Courts at Birmingham by Aston Webb, the recently erected municipal buildings at Oxford by H. T. Hare, and the English Opera House (now the Palace Theatre) by T. E Collcutt, while it went far to detract from the nobility of the Imperial Institute.

This tendency to littleness of detail was checked by the common-sense solidity of Norman Shaw's New Scotland Yard, still in a distinctly Belgian style (its evident prototype being the Mont de Piété at Liège), and by the reversion to a strong Italian Renaissance in the Accountants' Institute, by John Belcher. This last is the most notable building completed during the last decade in England or elsewhere, its fine proportions, its strength and its bold originality, combined with the free use of the highest class of sculpture, raising it far above contemporary works. Its influence, too, appears likely to be considerable, if one may judge from the published designs for buildings which are not yet erected.

Looking back over the century as a whole, one cannot help being struck both by the immense variety of first-rate building which has been done in England, and more by the steadily increasing amount of good work which each decade has seen. During the early decades a few great buildings arose in London, but, generally speaking, architecture was a lost art. Now there are educated practitioners in every part of the country, who are producing artistically satisfactory work largely in accordance with a prevailing fashion or style, while buildings of importance, hospitals, schools, town halls, &c, are rising everywhere. The past has shown progress, and the prospect for the future is good.

THE HISTORIC DEVELOPMENT OF THE ART OF MOSAIC.*

MOSAIC is the combination of different coloured small pieces of hard substances, such as marbles, stones, pastes of glass, &c., to form a design which may be either a geometrical pattern or a picture. There are really two divisions into which mosaic may be divided as far as the method of combination is concerned. The first is the arrangement of small cubes by which the decorative result is arrived at, and the other is the arrangement of inlays, in which the various figures are cut out of a ground and filled in with another material or diverse colours of the same material. Though these are, broadly, the two main divisions there are many different varieties of both of them.

The art has been practised from the very earliest times, and there are records of mosaic pavements in Egypt 2,300 years before Christ. Strange to say there are, however, no remains of mosaic work to be seen amongst the ruins of the vanished civilisation on the banks of the Nile, but, nevertheless, in the Egyptian collection at Turin, there is the fragment of a mummy case, the pictures of which are executed in mosaic with wonderful precision and truth. The material is enamel, and the colours are of different hues, whilst the subject is one representing birds. It is believed to be the only example existing of Egyptian mosaic.

The Greeks were most proficient, and carried the art to its highest perfection. They diverted it from its original purpose, which was the embellishment of pavements, and their skilful practice in it led to its usurpation of the position of oil-painting. It therefore became extensively used for the decoration of upright surfaces and ceilings. An Italian writer has divided mosaics into four classes, viz. Tesselated and Sectile, applied to pavements generally; and Fictile and Vermiculated, or pictorial, applied to walls and ceilings. A particular kind of mosaic was used to adorn the pavement of a dining-hall. It was called Asaroton, and represented the crumbs and remains of a repast which would be lying on an unswept floor. It is supposed to have been introduced by Sosus, of Pergamus, the first artist in mosaic of importance of whom we hear.

Mosaic was the most important decoration used in the basilicas of the Roman Empire, and in the churches erected under Constantine and his successors, whilst it was also used with profusion in other public and private edifices.

The Greeks at first preferred marble to any other material, but in course of time as they introduced new methods and ideas they came to use glass in one form or another, and under certain circumstances bone, ivory and mother-of-pearl. The main reason why marble was abandoned is not far to seek, for it is evident that chemical and mechanical mixtures of glass and colours, together with the advent of gold and silver leaf under the glass, produced a wonderful splendour and artistic effect previously unknown.

From the fact of the impervious and inflexible character of the material, mosaic, whether in colour or stability, experiences no change under the action of any kind of weather. It therefore has an excellent opportunity imparted to it for representing historical scenes, and of handing down a true pictorial account of important ceremonies. The Popes by causing the finest paintings of the Vatican to be reproduced in mosaic at St. Peter's have made assurance of their legacy to perpetuity.

M. Jules Labarte in his "Handbook of the Arts of the Middle Ages" says:—"Mosaic was destined to perish by the hands of those who had carried it to perfection, since painting, restored by these great masters, proved too powerful a rival. Instead of perpetuating the gigantic figures of solemn severe aspect which portrayed the Saviour, the Virgin and the Apostles, according to the type of the Byzantine school, the artists in mosaic endeavoured by the most elaborate finish and minuteness to imitate the details of painting. But when once it departed from its sphere mosaic experienced the fate of painting upon glass, and was almost entirely discontinued." Still the art continued to flourish at Venice till nearly the end of the sixteenth century, having the support of the Senate and of Titian, the latter instructing the artists to restore the Byzantine mosaics of St. Mark's, and furnishing them with coloured cartoons for that purpose.

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* A communication by Mr. Guy Wilfrid Hayler to the Journal of the Society of Arts.

The mosaics at St. Mark's, at Venice, are an incomparable series, and in them may be traced the progress of art, beginning with the eleventh century. In 1879, Ruskin wrote, "Every hour of my life, these mosaics become more precious both for their art and their meaning," and he raised a great deal of controversy through his action in opposing the authorities who were carrying out restoration schemes. Fortunately, he was successful in averting further injury, and the greatest care is now taken in maintaining the building in its integrity. The mosaics in question represent :—The Wood of the Holy Cross Festival, Christ surrounded by the Prophets, the Doge, Clergy and People of Venice, three of the Apostles witnessing the Ascension (eleventh-century work), the Virtues (sixteen in the series), the Four Evangelists, the Four Rivers of Paradise, King David and the Madonna, King Solomon and Ezechiel, Christ surrounded by the Principalities and Powers of Heaven, and other religious subjects.

The effort to reduce mosaic art to a representation of paintings made it necessary to improve the material, and therefore coloured enamels of various shapes and sizes were introduced, and of different shades, with most delicate tints and half-tints. The end of the seventeenth century, therefore, witnessed the restoration to favour—to a great measure—of mosaic, and it was very widely used for the reproduction of the paintings of the great masters.

The mosaic found at Hadrian's Villa, near Tivoli, and now in the Capitoline Museum, show the great perfection to which the early Greeks (it being Grecian work) attained in the art. One example represents a vase full of water, on the sides of which are four doves, one of which is in the act of drinking. It is composed entirely of cubes of marble without any admixture of coloured glass, thus showing that it is some of the earliest work of its kind. A mosaic found at Pompeii represents three masked figures playing musical instruments, and it is formed of very small pieces of glass of different colours. The value of this work is enhanced by the artist's name—Dioscorides of Samos—being worked upon it. A more remarkable mosaic was discovered in the House of the Faun, and it is now in the museum at Naples. It shows the progress of a battle between Greeks and barbarians, and Professor Quaranta refers the picture to the battle of Issus. The Grecian leader is supposed to be Alexander the Great, and if this is so, the mosaic is probably the copy of a picture by Apelles, the only artist privileged to paint the Macedonian conqueror. Unfortunately the work has suffered some damage, but it was in this mutilated state when discovered, and seems to have been under a process of reparation. The border represents a river, thought by some to be the Nile, and they think that the mosaic is probably a copy of a picture on the same subject, painted by Helena, an Egyptian female artist, and brought to Rome by Vespasian.

The finest mosaic pavement in England and one of the finest in Europe is to be seen at the Roman villa, Bognor, Sussex, where it was discovered in 1811. It represents an old man's head, a Medusa, a Ganymede and a combat of lions. There are also some beautiful border designs and the whole is in a state of excellent preservation. At the Roman villa at Northleigh, Oxfordshire, there are some very good mosaic pavements, and amongst the Roman antiquities in the British Museum there is a specimen which was found at Withington, Gloucestershire, and which depicts Neptune and other marine figures. In the Græco-Roman collection at the British Museum there are tesselated pavements and mosaics chiefly from Carthage and Halicarnassus, and amongst those from the latter place is a large specimen representing Aphrodite rising from the sea, and another, a large bay wreath containing words of felicity.

Amongst the discoveries of ancient mosaic in recent years is the find in 1896, in the island of Minos, of an excellent specimen in a splendid state of preservation, representing vegetables, birds and fishes. In 1897, at Madaba, in Palestine, a valuable mosaic was discovered, which exhibited a plan of the Holy Land in the fifth or sixth century of our era, and which has enabled the exact site of the church of the Holy Sepulchre—which was destroyed by the Persians A.D. 611—to be determined. In the same year, at Torre Annunziata, the village near Pompeii, a mosaic in very good condition was discovered which represents a scene in a school of philosophy. In 1898 a very good example of Roman mosaic was unearthed at Silchester, near Reading, where most energetic excavations are proceeding, and last year (1899) more discoveries were made there of mosaic pavements of a simple pattern.

The Romans have left behind no more distinct traces of their occupation of the various countries than the numerous and in most cases well-preserved mosaic pavements of their edifices, which remain to us to-day as an evidence of their remarkable artistic power and clever mechanical skill.

The following list of Mediæval glass wall mosaics is considered by Professor Middleton as embracing the chief examples of their kind:—

Rome.—Fifth-century work—St. Paolo fuori le mura, triumphal arch; St. Maria Maggiore, square pictures over nave columns, and triumphal arch. Sixth-century work—Saints Cosmas and Damian, apse. Seventh-century work—St. Agnese fuori le mura, apse, 626; St. Teodoro. Eighth-century work—Baptistery of St. Giovanni in Laterano; Saints Nereus and Achilles. Ninth-century work—St. Cecilia in Trastevere, apse; St. Marco, apse; St. Maria della Navicella, apse and "Chapel of the Column;" St. Prassede, triumphal arch; St. Pudenziana, 884. Twelfth-century work—St. Clemente, apse; St. Francesca Romana, apse; St. Maria in Trastevere, apse. Thirteenth-century work—St. Paolo fuori le mura, apse; St. Clemente, triumphal arch, 1297; St. Giovanni Laterano, apse by Jacopo da Turrita, 1290; St. Maria Maggiore, apse and western end by Jacopo da Turrita, 1292-99, and Taddeo Gaddi. Fourteenth-century work—St. Peter's, navicella in atrium, by Giotto; St. Maria in Cosmedin, on walls, by Pietro Cavallini, c. 1340.

Jerusalem.—Seventh-century work—"Dome of the Rock," arches of ambulatory, 688. Eighth-century work—Mosque of Al-Aska, on dome. Eleventh-century work—"Dome of the Rock," base and cupola, 1027.

Milan.—Fifth-century work—St. Ambrogio, Chapel of St. Satiro, vault. Sixth-century work—St. Lorenzo, Chapel of St. Aquilinus, vault. Ninth-century work—St. Ambrogio, apse, 832.

Florence.—Thirteenth-century work—Baptistery vault c. 1225, by Fra Jacopo; St. Miniato, apse and western front Fourteenth-century work—Baptistery, finished by Andrea Tafi

Ravenna.—Fifth-century work—Orthodox Baptistery, vault Tomb of Galla Placidia, vault 450; Archbishop's Chapel, vault Sixth-century work—Arian Baptistery, vault; St. Apollinare Nuovo, apse and nave, with ninth-century additions; St. Vitale, apse and whole sanctuary, 547; St. Apollinare in Classe, apse and nave, 549.

Constantinople.—Sixth-century work—St. Sophia, walls and vault, c. 550. Eleventh-century work—St. Saviour, walls and domes.

Venice.—Twelfth-century work—St. Mark's, narthex, apse, walls of nave and aisles. Fourteenth-century work—Saints Giovanni e Paolo, in arch over effigy of Doge Morosini.

Fundi.—Fifth-century work—Cathedral, apse.

Nola.—Fifth-century work—Cathedral, apse.

Thessalonica.—Sixth-century work—Church of St. George, apse, &c.; St. Sophia, dome and apse.

Trebizond.—Sixth-century work—St. Sophia, apse.

Mount Sinai.—Eighth-century work—Chapel of the Transfiguration.

Cordova.—Tenth-century work—Nihrab (sanctuary) of Mosque.

Capua.—Twelfth-century work—Cathedral, apse.

Torcello.—Twelfth-century work—Cathedral, apse.

Murano.—Twelfth-century work—Cathedral, apse.

Salerno.—Twelfth-century work—Cathedral, apse.

Palermo.—Twelfth-century work—Capella Palatina, begun 1132, the whole walls; Church of La Martorana, vault.

Monreale.—Twelfth-century work—Cathedral, the whole walls, 1170-90.

Bethlehem.—Twelfth-century work—Church of the Nativity, 1169

Afalú.—Twelfth-century work—Cathedral, apse 1148.

Pisa.—Fourteenth-century work—Cathedral, east apse by Cimabue, 1302; north and south apses, by his pupils.

A Part of Old London Wall was discovered on Monday in the course of digging operations at the corner of Jewry Street, Aldgate, and Aldgate High Street. The fragment is believed to be the foundation of the two towers of Ald Gate. It is from 8 to 10 feet wide, very solidly built, and was found about 3 feet below the ground level. It is probable that the wall, which is in an excellent state of preservation, will be removed to the Guildhall Museum.

The Delegates of the Common University Fund have nominated Francis Llewelyn Griffith, M.A., of Queen's College, Oxford, to be University Reader in Egyptology for a period of three years, and to be re-eligible, at a stipend of 200*l.* per annum, the stipend to be increased to 300*l.* in any year in which he resides abroad at least two months for the study of Egyptology.

NOTES AND COMMENTS.

The late Louis Ménard was regarded in some respects as the most erudite writer France has produced in our time. In Greek literature especially he was without a rival. But as he was indifferent to fame or wealth, he could not be looked upon as one of the most popular writers of the nineteenth century. The materials of a revolutionist were in him, and he was in arms not merely against politics, but many other systems which exercised an influence over Frenchmen and the world in general. Louis Ménard was one of those who believed that "men of letters are a perpetual priesthood," and his investigations were pursued with as much devotion as if they formed part of the services in a temple. He was so anxious to instruct his countrymen, his books were brought out at prices which prohibited an expectation of profit. His histories of the Greeks, of the Oriental races and of the Israelites are instances of his treatment, and they show among other features how art can be made an auxiliary to historical description. Buildings, statues, coins, vases, paintings, &c., were introduced as if they were documents whose worth could not be questioned. In connection with his brother he brought out two admirable works, "Antique and Modern Sculpture" and "The Museum of Painting and Sculpture." He lived, like the philosophers of old, in the humblest way in Paris, but respected by all scholars. Although he never sought after popularity, he was particularly anxious that an account of his labours should appear in *The Architect*. A long notice about them appeared in 1888, which afforded him much gratification. His peculiar position was not, however, concealed, for it was said, "Like the soul in the 'Palace of Art,' M. Ménard sits holding no form of creed, but contemplating all. Nor will his theories satisfy many who are outside the pale of Christianity. M. Ménard does not even agree with the doctrine of evolution, which now finds so many supporters. He holds that events are neither the effects of chance nor of a necessary evolution, but are the moral consequences of a great law of equilibrium and expiation which is the Nemesis of history." All his studies are now over in this world, and, like Browning's Grammarian, we can "leave him—still loftier than the world suspects, living and dying."

The American authorities sometimes treat their contractors so shabbily, it is no wonder excessive prices are charged in order to provide for such contingencies. One curious case has been for some time before the Courts. A contractor had constructed a sewer in New York, but his bill would not be paid because it was alleged he had offended against a local law which decreed that all stone used in public works must be worked, carved and dressed within the State of New York. The contractor brought an action and the Supreme Court decided in his favour. It was held by the judges that the acceptance of the work by the city authorities made them liable to pay the contract price. When it was found that stone dressed in another State was to be used, then the contract should have been rescinded. But as there was no formal act to suggest the invalidity of the contract, it was to be assumed that the authorities were willing to incur liability. That is a satisfactory decision, but it may be set aside in some other division of the Court. The case is sure to give rise to the suspicion that from the first the authorities of New York wished to evade payment, but they waited too long in taking action.

A conference of Australian Architects has been held for the purpose of forming a Federal Institute. In order to aid in the promotion of education it is intended to establish a travelling scholarship. Mr. John Barlow, the president, thinks that the Australian buildings have as yet no distinctive character of their own. Barely advanced beyond the imitative stage, the best work, however, quite equals, he says, that erected of late years in the provincial towns of England. In domestic architecture, the last decade witnessed wonderful progress. The indications point to advancement, and it is in the sphere of domestic work that one must look for the first signs of an artistic awakening. Mr. Barlow believes the national or Australian spirit will spring up unawares, and will find expression in the Capitol which is soon to be reared. He considers that the architecture of Europe has seemingly settled down into a cold, academical Classicism, very fine and correct, but lacking spontaneity. Too much knowledge has apparently curbed the originality, and until within the last twenty-five years the same fault was noticeable in English work. The Classical revival during the early part of the century gave rise to the Gothic, and the Gothic in its turn to the so-called Queen Anne, and latterly there has been a marked tendency to disregard style, by which must be understood the designing of a building in such a manner that it can be immediately ticketed with some architectural label, and to allow greater freedom and more scope for originality. But freedom in this sense does not mean license to perpetrate any ignorant atrocity. Evidently there is no lack of criticism among Australian architects, but if it will elevate their own work few complaints will be raised against it in England or elsewhere in Europe.

French galleries in Paris and other towns are so well guarded by keepers, who are generally old soldiers, it seems impossible that even a trivial larceny could be permitted. But on Friday last an astounding robbery occurred in the Palais des Beaux-Arts in Lyons. Not one but several glass cases were broken, and most valuable objects were carried off. Evidently the thieves possessed some skill, for otherwise they would not have confined themselves to treasures which were among the most prized in the collections. The series of gold coins from the period of Louis XIV. to the latest issued from the Mint would be appreciated by even an unintelligent burglar, but we can hardly imagine anybody carrying off the ornaments belonging to an ancient Roman lady unless he was aware that their archæological value was almost inestimable. In the same way collars, pendants and bracelets of remarkable beauty were removed. But a case containing examples of medals by M. Roty was left untouched. It is generally supposed that the thieves managed to conceal themselves when the time for leaving arrived, and the crime was not committed until the evening. The value of the stolen articles is estimated at 4,000*l.* at least. For some time to come visitors to French museums must not be annoyed if they find a more rigorous surveillance is exercised.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: THE CHOIR, HALF LENGTH.

BUSINESS PREMISES, NO. 112 JERMYN STREET.

These premises in Jermyn Street, which are being built for Messrs. Standen & Co., are faced entirely with Portland stone. The staircase and windows are of the best English oak. The contractor is Mr. John Greenwood, of 10 Arthur Street West, E.C.; the steelwork by Messrs. Measures Bros., and the lifts by Messrs. Waygood & Co. The heating, which is by radiators on the low-pressure system, is being done by Messrs. Ashwell & Nesbit. All the columns are being cased and decorated by the Mural Decorations Company. Mr. Reginald Morphew was the architect.

ST. JOHN'S PARK MANSIONS, PEMBERTON GARDENS, N.

These residential flats are erected at Holloway. Each block contains eight suites of three rooms each, in addition to kitchen, scullery, bath-room and servant's bed-room. The cost was 3,200*l.* per block. The site being entirely made ground, the buildings are carried by steel girders on concrete piers. Mr. Sidney Perks was the architect.

ADDITIONS TO STYLE ACRE, WALLINGFORD.

Extensive alterations have been made to the servants' part of the house, and a billiard-room, with rooms over, added. The contractors were Messrs. Brasher & Sons, of Wallingford. Mr. Reginald Morphew was the architect.

CHURCH OF ST. ETHELWOLD, SHOTTON-IN-HAWARDEN, N. WALES.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute was held on Monday evening last, Mr. E A. Grüning, vice-president, in the chair. The address of condolence and allegiance which the Council proposed to send to His Majesty the King was also read to the meeting.

The Chairman announced that the Royal Gold Medal would not be awarded this year. The Gold Medal was the gift of Her late Majesty the Queen, and therefore was in abeyance for the present. The Council, however, intended to make application for a renewal of the Royal patronage, but the presentation of the medal was a matter which depended on the goodwill of His Majesty the King.

The following gentlemen were elected as fellows :—

Fellows.—Messrs. F. S. Baker, A. C. Blomfield, C. J. Blomfield, G. F. Collinson, W. Flockhart, John Leeming, Joseph Leeming.

Associates.—T. B. Ball, E. W. Banfield, G Brumell, H. M. Cautley, W. G. St. John Cogswell, W. E. B. Froome Crook, H. A. Douglass, T. W. Gordon, A. H. Goslett, S. Harrison, C. E. Hutchinson, A L MacGibbon, R. H. Jewers Mayhew, W. V. Morgan, R Wynn Owen, A. Wyatt Papworth, J. Quail, F. J. Osborne Smith, E. J. Tench, C. Boswood Thomas, H. A. Tinker, P. J. Turner, W. J. Walford.

Hon. Fellow.—Sir Lawrence Alma-Tadema, R A , F.S A.

Dr. Hayes Newington read a paper written by Mr. G. T. Hine on

Asylums and Asylum Planning.

Asylum construction embraced the study of almost every description of building, from a church to a cow-shed, and the art of combining so many dissimilar structures into one harmonious whole, with the engineering skill necessary to provide for and supply heat, light and water to what is practically a little town, made asylum architecture an almost distinct profession in itself. Further, asylums are built for people who have to be watched, nursed and provided with employment and recreation under conditions inapplicable to sane people, and to provide for all these while the subjects are under enforced detention a very special knowledge is required to make their lives bearable and, as far as possible, pleasurable. In order to make his paper of some use to the student of this branch of architecture, he proposed dealing chiefly with asylums at home and their most fitting form of planning, and referring to some of the most interesting examples in foreign countries.

Starting with a brief historical sketch of the building of public asylums, the author stated that there was no certain evidence of asylums for the insane before the Middle Ages. Early in the fifteenth century there is record of a most sumptuous building erected in Cairo for the exclusive use of lunatics. In 1641 the asylum of Notre-Dame de la Paix at Charenton was founded for the reception of lunatics, and is now one of the largest of such institutions in France. In 1660 in the Hôtel Dieu at Paris two small wards were set apart for the mentally afflicted. Gheel, in Belgium, has been a resort for lunatics for many centuries. Here patients were brought to be cured, boarding with the peasants of the district, and from this has gradually developed a colony of resident lunatics, numbering to-day nearly 2,000, who, while still chiefly boarding with the inhabitants of the place, are under a strict code of regulations framed by the Government. In England there are records of an asylum for the insane at Barking, founded in 1370. Bethlem Hospital was founded in 1247, but it was not till 1403 that we have any record of lunatics being received there. Of other early buildings of the kind in this country were St. Peter's Hospital at Bristol, founded in 1696 ; the Manchester Royal Lunatic Hospital in 1706 ; Bethel Hospital, Norwich, in 1713 ; St. Luke's Asylum, London, in 1751 ; and the Liverpool Lunatic Hospital in 1792.

Up to the end of the eighteenth century such lunatics as were not at large were confined in prisons or in the few houses then erected for their accommodation, and were frequently treated worse than felons, often with the greatest cruelty. But in the year 1796 the "Retreat" at York was founded by the Society of Friends, an institution where an intelligent system of treatment was initiated and carried out under the able direction of Mr. William Tuke. This institution and the novelty of its treatment constitute a landmark in the history of lunacy. It roused a spirit of inquiry into the housing and care of the insane, which resulted in the passing of an Act in 1818 permitting county justices to erect asylums for the accommodation and treatment of pauper lunatics. In 1845 another Act was passed, making it compulsory on local authorities to provide asylums for the insane in boroughs and counties throughout England and Wales. This Act established the present Lunacy Commission with six paid commissioners, whose work of inspection and direction has done so much to ameliorate the condition of the unfortunate people under their care. In 1845 there were only about thirty pauper asylums and hospitals, the latter chiefly for private patients, besides a number of registered houses, and, as nearly as could then be estimated, about 17,000 pauper lunatics in England and Wales. Now (in 1901) there are no fewer than 100 county and borough asylums and hospitals, together with something like seventy registered houses, all of which have to be inspected once—in some cases four times—a year, and 107,000 certificated lunatics to be interviewed by the Commissioners. Scotland and Ireland have also their separate Acts relating to lunacy—in Scotland on somewhat similar lines to those in this country, with a board of commissioners; but in Ireland the construction and direction of asylums are more directly controlled by the State.

Turning to the actual buildings, the author described some of the most notable erections since the Act of 1845, indicating the various stages in the evolution of asylum planning, a study of which is essential to a proper appreciation of its latest developments. Existing types of plan are all more or less developments of the corridor and pavilion systems. In the early days the corridor system, consisting of a long gallery, with single rooms opening out of it, was the only recognised principle on which an asylum could be built. The form was usually quadrilateral. After the Act of 1845, while the internal arrangements savoured less of restraint, the principle of the corridor system still prevailed. The first development was an attempt at classification by the introduction of a ward for the sick and infirm on each side of the building ; the number of cells was reduced and more patients were allowed to sleep in associated dormitories. In the seventies special provision began to be made for epileptics, and the Lunacy Commissioners in 1874 published a plan designed by Mr. Howell for an epileptic ward, which has been adopted with trifling variations in nearly every asylum designed within the last twenty years. In the decade 1871-80 the most notable departure in planning is met with in the Lancashire County Asylum, at Whittingham, designed in what Burdett describes as the corridor-pavilion style, and characterises as one of the finest specimens of asylum architecture in England. The Gloucestershire second county asylum, erected on the pavilion system, the blocks being arranged in échelon, was the first of this type erected in England, and may be said to have originated the oblique or broad-arrow form of corridor now so commonly adopted in asylum designs. The Surrey second county asylum at Cane Hill, one of Mr. Howell's chief works, and accommodating 2,000 patients, is on the pavilion type, the blocks radiating from a main corridor of horseshoe form. Criticising the variation of floor levels in this building, which necessitated flights of steps in the corridor, the author was of opinion that this irregularity could have been avoided by a more careful consideration of the surface levels of the ground and a little more excavating. He urged architects designing asylums to give a first consideration to the site. In many of the plans coming under his official notice the buildings are generally left to adapt themselves to the site rather than the site being adapted to the buildings. Describing the Claybury Asylum, designed by himself, the problem to be solved was how to accommodate 2,000 patients within reasonable distance of the administrative centre without prejudice to the position and aspect of their wards. The plan he adopted was a modification of the échelon type, the wards being approached from obtusely oblique corridors, the pavilion system being almost a necessity from the conditions issued. The asylum is built on the top of a hill, falling all ways, and by removing the apex of the mound, representing nearly 100,000 yards of soil, which was well disposed of in filling up a valley to the north of the asylum, a level plateau was obtained, sufficient to allow of about half the patients' blocks and the whole of the administrative department being erected at one uniform level ; the remaining wards being slightly lower, but in no case more than 5 feet below the central buildings. At Bexley Asylum the author first introduced the villa system on a tentative scale of three villas holding thirty-five patients each, and a detached hospital for fifty phthisical cases or others requiring isolated treatment. In this asylum, which accommodates 2,000 patients, all the wards communicate with one another, and an officer may pass from one end of the male or female side to the other without retracing his footsteps or being obliged to return to the main corridor. Bexley has proved so satisfactory that the London Asylums committee have arranged with Mr. Hine to use the same plans, with a few modifications and improvements, for a second edition of this asylum at Horton.

Numerous other asylums were referred to, the author indicating their distinctive features and in many cases exhibiting plans.

The London Asylums committee have found it necessary to add temporary buildings to some of their asylums. These erections, chiefly of wood and iron, provide accommodation for 1,700 patients at a total cost of about 173,000*l.*, averaging 100*l.* a bed—a costly expedient considering the limited life of these structures.

Scotch asylums are administered by a board of commissioners, whose duties, though similar in many respects to those of the English Commissioners, are exercised under different laws and with different results in the planning of these buildings. The system of housing in the acute hospital the curable and incurable cases together is encouraged by the Scotch Commissioners, who consider it undesirable to separate entirely the two classes. This view is upheld by Dr. Conolly, who considers the absolute separation of the curable from the incurable to be neither practicable nor desirable—the incurable patients being generally fitter companions for the curable than the curable patients are. English medical experts, however, hold that a hospital, totally distinct and apart from the asylum, for the reception and treatment of new cases which are not diagnosed as hopelessly incurable, must prove an important factor in the cure of lunacy. It is well known that many forms of insanity are curable at an early stage, but by neglect or unfavourable conditions often result in permanent and incurable disease.

In 1889 the London County Council appointed a committee to inquire into and report upon the advantages of the establishment, as a complement to the existing asylum system, of a hospital with a visiting medical staff for the study and curative treatment of insanity. The committee held meetings, and invited leading medical experts to give evidence. Their report showed the evidence to be greatly in favour of the scheme, and they summed up strongly recommending the establishment of such a hospital. The County Council nevertheless ignored the recommendation, and have continued building asylums on the old lines. Other county authorities, however, have taken up the matter, and are providing hospitals for the reception and treatment of curable cases. The provision of an acute hospital the author considered to be one of the most important evolutions in modern asylum planning.

Touching asylums on the Continent, various plans were shown of German asylums, and interesting details given of the villa system as seen in the asylum at Alt Scherbitz, which may be said to have originated this type of planning, now adopted more or less in modern American asylums, and more recently, but to a less extent, in England. The villas are constructed very much like boarding-schools, with day and classrooms on the ground floor and associated dormitories above. The doors and windows are open, and the patients come and go as they please, wander about or work in the grounds, enjoying comparative freedom, but always under the watchful eye of carefully-trained attendants. No wall encloses the estate, only a light and easy climbable fence. The gardens surrounding the houses in the central establishment are enclosed with palings, grown over with plants and creepers. The colony is bounded on the south by the river Elster, which flows at the foot of a steep hill in the grounds, and there is nothing to prevent a patient rushing down the hill and plunging into the river. Great value is attached to residence in the colony, and patients are given to understand that their stay there depends on their good behaviour, and are thus encouraged to exercise self-control.

Having given an account of asylums as they are, the author went on to deal with future possibilities of asylum designing, and then to give a detailed description of an asylum as it should be, instancing a building to accommodate, say 800 patients, with provision for future extension to 1,200. As an illustration, the plans were referred to of the new East Sussex Asylum now erecting at Hellingly, which has been designed on the most modern lines, the whole scheme having been most carefully thought out by a committee of the County Council, with Dr. Hayes Newington at its head, whose wide experience, acquired in many years' association with asylum work, gave his committee an immense advantage in determining the basis on which they should work.

To understand the first principles of asylum construction, it is necessary to know something of the eccentricities of insanity and the habits and treatment of the insane. The author recommended the student in asylum planning to make friends at all opportunities with the medical experts, and to study the subject in the light of those whose duty it is to look after the insane. The architect can materially assist the doctor in both the cure and protection of the patient by the careful consideration he gives to the details of planning and construction of the asylum, and in doing this he will find that he must design buildings which give security without appearance of restraint. The ever-present sense of detention is, in a way, as inimical to cure as were the cells and fetters of the eighteenth century.

In the ideal asylum the most important building must be the acute hospital. Here it is that every patient, unless hopelessly incurable, is admitted, and during his stay in this hospital his future life is probably determined, whether he shall recover and go back into the world, or whether he shall pass on to the main asylum for the remainder of his days, to eke out an unhappy existence at a cost of more than 30*l.* a year to his country. On every ground we cannot afford to neglect anything—consideration, care, or money necessary to produce a building—which affords the doctors the best opportunities for treating and curing their patients. Any money thus spent will prove the truest economy in the end.

The various parts of his ideal asylum having been discussed in detail, together with the engineering works, internal fittings, laundry, systems of heating and ventilation, &c, the author concluded his paper by a reference to the cost. He was of opinion that a well-built asylum, designed on liberal principles and fitted with all modern appliances, cannot be erected for much less than 300*l.* a bed. Twenty-five years ago Nottingham Borough Asylum cost 170*l.* a bed. But that the increased cost is not out of proportion to that of other building works is shown by the report of the Metropolitan Commissioners, where the cost of fifteen asylums erected before the year 1845 is stated to have averaged 200*l.* a bed, some even then approaching as much as 300*l.* a bed.

Dr. E. Marriott Cooke, who proposed a vote of thanks, said no one who had watched for the last thirty years the construction of asylums could fail to appreciate the great indebtedness of the medical profession and the public to architects, and in particular to Mr. Hine, for the excellent accommodation now provided for the insane poor. Critics sometimes said that such work had got into a groove and that progress was slow, and that the asylums in Great Britain were behind those of other countries. The slowness to adopt the cottage style in lieu of the institutional type was, the speaker ventured to think, wise. In Germany, where the cottage type was more generally adopted, the lunatics confined were often of so partial a character that in this country they would not be kept under official restraint unless in a workhouse. The speaker favoured having in larger asylums a separate detached building for new and recent cases in which there were prospects of cure, but he did not advocate having chronic cases in scattered villas unless they were well-behaved lunatics. One of the best steps taken in modern construction was the division of the acute from the mild cases in separate wards. For heating purposes the speaker preferred steam coils rather than methods which needed flues. Airing courts should be large, and the boundary walls and railings not too high.

Dr. Urquhart seconded the vote.

Mr. Clifford Smith said well-designed asylums were managed more cheaply, and showed the maximum result with minimum expenditure. With regard to heating arrangements he had found that the low-pressure system, with a proper outlet for foul air, gave the best result.

Mr. Gordon Smith, in supporting the vote of thanks, said he was puzzled as to the best arrangement for an asylum. Some of the plans exhibited on the walls seemed grotesque, and that which was right in one place seemed wrong in another. The question of aspect required some explanation. Another surprise was the size of wards adopted in the later buildings, and the fact that the Local Board sanctioned such arrangements.

Mr. Hine, in returning thanks, said he was very glad reference had been made to the aspect of asylums. They had to remember that such buildings as a block had to be kept within a reasonable distance of the administrative centre, and so it would be considered a proper arrangement if the best aspect was given to the day rooms. Asylums, he asserted, were constructed very much on the lines laid down by the Local Government Board.

The Chairman, in putting the motion to the meeting, included the name of Dr. Hayes Newington, and the vote was passed unanimously.

RENAISSANCE SCULPTORS.

IN his first address as Professor of Sculpture, given on Monday evening at the Royal Academy, Mr. Alfred Gilbert, R.A., disclaimed all intention of wrapping up what he had to say on sculpture in an essay filled with biographical details and dates. The nature of the subject he had chosen for his addresses ("A Glimpse into the Lives, Works and Methods of the Great Masters of the Fourteenth, Fifteenth and Sixteenth Centuries") might compel him to depart in some measure from this purpose, but he hoped to give most of his time to the consideration of the practical side of the sculptor's art. The men of whose work he meant to speak were three—Donatello, Michel Angelo and Cellini, the first of whom was the harbinger of that Renaissance which produced such giants in art. We have also our so-called Renaissance, but we can learn by looking back to the examples of these men. They had no such examples, but each, though he did not know it, had his prototype in ancient Greece—Donatello in Praxiteles, Michel Angelo in Phidias and Cellini in Zeuxis. Donatello, aptly named, preceded the dawn of the Renaissance, and through his pupils inspired Michel Angelo and Cellini. Mr Gilbert told the story of Donatello's rivalry as a student with the more advanced Brunelleschi, and of his challenge to that artist. Donatello was defeated in the competition which followed and destroyed his own efforts in despair after seeing those of Brunelleschi's. Donatello's conduct was held up as an example to the Academy students, who were urged to imitate the great Florentine in his indomitable pluck and energy, and his readiness to receive criticism. Sculpture is only a member of a great family which includes besides painting and architecture. Sculpture has perhaps made less progress than either of its sister arts, but its limitations necessitate its being the most conservative of the three. Its practice demands more from the individual than either of the other branches; greater sacrifices, seeing that fewer people understand it. Courage, energy, perseverance, devotion—in fact all the qualities exemplified in the lives of the men he had mentioned—were essential to its followers. A great stumbling-block was the question of remuneration. Sculpture is not, and never will be, remunerative, and its votaries must be prepared to work and suffer. Painting, though of less lasting expression, is more democratic than sculpture, because it is more easily understood, and therefore more popular. In his second address he hoped to inquire into some of the works of the three sculptors mentioned, and to show how they came to be executed, treating them from a practical and workmanlike point of view. The sculptor's work at that time covered many things besides modelling and bronze-casting and carving, and what he had to say might be a revelation to the students as to the possibilities of their art. Enamelling was not much practised except in small things, but he would show them what processes were used in its stead, and he would explain the method of Michel Angelo's work in marble. The idea, however, that Michel Angelo, although one of the greatest artists and workmen the world had ever seen, could chop out a statue from a block of marble, without a model, was a great mistake.

THE ROMAN FORUM.

A NEW fragment of the ancient plan of Rome came to light last week in the excavation of the roadway in front of the Basilica Julia Visitors will remember the fragments lining the walls of the staircase in the Capitoline Museum, which came from the ruins of the Temple of the Sacred City and belong to the plan affixed to the wall of that temple under Severus at the beginning of the third century, replacing the original plan made under Vespasian in A.D. 78, but destroyed in the fire of 191. The great interest of the new fragment is that it is evidently a discarded relic of the original plan of the first century It was found built up in an ancient drain, and far away from the other fragments, and the lettering on it belongs clearly to the first century. The words are '(Th)ermae (Agrip)pae," "The Baths of Agrippa," and the plan includes, among other things, a circular structure in a square enclosure, which no doubt represents the original condition of the site on which Hadrian at a later date erected the present Pantheon. Middleton long ago remarked that one of the Capitoline fragments—that representing the Temple of Castor and the recently discovered Lake of Juturna—was not found with the other fragments, and probably belonged to a different plan. Now the buildings surrounding the lake, recently unearthed and belonging to the age of Hadrian, do not exactly agree with the plan on the fragment. We may therefore say that this too belonged to the plan of the first century.

The same excavations in front of the Basilica Julia have recently revealed a few fragments of the foundations of the Arch of Tiberius, and thereby settled its site, which had been a little doubtful. It spanned the road exactly opposite the corner pier of the Basilica and close under the portico of the Temple of Saturn. The Arch of Severus, on the opposite side of the Forum, roughly formed a pendant to it, though of much greater size.

STONEHENGE.

IN a letter to the *Times* Professor Flinders Petrie, writing from Arabah, Upper Egypt, says:—As probably I have spent more time than any one else in accurate work at Stonehenge, I should be glad to state some considerations regarding its future.

1. *Artistically.*—To do anything to break the marvellous effect of the lonely plain and great masses of stone would be cruel. The sight is the most impressive in England, and on no account should it be destroyed by a hideous iron railing such as now defaces Kits Coty house. If a fence were necessary, a sunk ha-ha would be the only form permissible. But no rapid injury can be done by visitors, and a fence is needless if there is a guardian.

We have to thank the successive owners for guarding the monument so far, but the public might surely provide a guard to live near by, in a cottage hidden by earth-banks, so as not to spoil the surroundings. This would be far the best course for the future.

2. *For Conservation.*—To trim up the place, by re-erecting every stone that has fallen, would be no benefit either to its appearance or to archæology. A few stones that have fallen since accurate plans have been made might be fairly replaced within 2 or 3 inches. But the real effort should be to save those now gradually yielding over, especially the largest stone of all. When leaning stones have been pushed up into place, then all the unstable ones should have a concrete bed filled in, below the turf level, as I proposed twenty years ago. The whole soil under a stone might be removed while the block was clamped in a timber frame.

3. *For History.*—While needful repairs are being made a most important chance of historical research would be open to us, and possibly a thorough exploration might be made at the time. There are some rules essential to success in such a work. (1) Not a handful of soil must be moved except under the instant inspection of a good archæologist, who must live in a shed at the site. There must be no fooling about driving up each day from an hotel at Salisbury to find that the workmen have wiped out historical evidences before breakfast. (2) The workmen must be trained hands, and full local value must be paid to them for everything they find; there must be no chance tales a year or two later about so-and-so having got prizes from the excavations. (3) A perfect record of every scrap, even of pottery, must be kept, and the ground cut away in such measured slices that the place of every object is known to an inch. (4) The public must be kept out from all interference from the portion being worked, and no festive luncheons and notabilities must be allowed to distract the recorder for a moment.

We have here the chance (thanks to the conservation by the owners) of reaping a fine harvest of historical facts, and clearing up our early civilisation better than anywhere else. Every item is of irreplaceable value, and no carelessness or clumsiness over such work can be tolerated. Being at a distance I am not aware if any specific person or scheme for the work has yet been brought forward, and these remarks must be taken as purely dictated by the seriousness of the subject, and not as reflecting on any arrangements in view. Perhaps during the summer I may be able from University College to co-operate in some plan. For the present I am in the midst of restoring the beginnings of an older civilisation of the first and second dynasties of Egypt.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

A MEETING of the Leeds and Yorkshire Architectural Society was held in the Society's rooms, Park Street, Leeds, on Monday evening, when a paper was read by Mr. H. C. Corlette, of London, on the "Planning and Design of Churches." Mr. Corlette said he did not propose to discuss doubtful points in ecclesiastical architecture, or the history of churches, but to address to practical men a few practical remarks upon their planning of the building with which their interest as architects was especially associated. In the first place, he pointed out with some emphasis the necessity of the building being made to belong to and to harmonise with its surroundings, and he proceeded to advise architects not to put too much egotism into their composition. Let the personal element be found rather in their work than in an ostentation, amounting to vulgar display, which forced its recognition upon the notice of all who looked at the building. Proceeding, he offered some advice with regard to the selection of sites and the adaptation of the buildings to their surroundings; and he went on to deal with the technical features of plans such as those relating to the construction of the sanctuary, the choir, the nave, the side chapel and the vestries. The lecture was rendered the more interesting and instructive by means of a number of plans and coloured drawings which were exhibited.

LAUNCESTON CASTLE.

THE Launceston Town Council had under consideration on Monday the question of taking over the lease of the ancient castle from the Earl of Halsbury. The Lord Chancellor fills the office of Constable of the Castle, but is desirous of relinquishing it and the lease. It was stated that the Duchy of Cornwall were willing to grant the Corporation a lease at 5*l.* per year. Fears have recently been entertained that the ruins, which are in a state of decay, may collapse, and the Duchy is willing to repair this if the Corporation pay 10*l.* a year. It was, however, suggested that any work carried out on the castle should be thoroughly done under the supervision of the Corporation. With regard to the post of Constable, an office which has been in existence since the year 1088, it was suggested that this should be filled by the Mayor for the time being. A committee was appointed to obtain further information and to lay it before the Council.

THE TRACERIES OF THE GREAT POINTED WINDOWS, DUCAL PALACE, VENICE.*

THE dates given and facts herein stated regarding the construction of the Ducal Palace at Venice are taken from the records of the Great Council, of the Council of Ten, of the procurators of St. Mark, from the account-books of the commissioners and clerks of the works of the palace, and from other contemporary documents in the archives of the Frari which have never been published in English.

In 1885 Mr. C. H. Blackall proved, by excavating one of the angles of the great campanile of St. Mark, that the foundations of all the important buildings in its vicinity were laid at a depth of about 15 feet on a stratum of blue clay which underlies all that region of Venice. Since then the foundations of the arcaded lagoon front of the Ducal Palace have been examined and found to have been built on the blue clay in the following manner:—Two layers of 6-inch pine planking were laid crosswise, then a layer of heavy fir beams were spiked to the planking; on these the continuous stone foundation of the wall was built, the frustum of a pyramid in section, five times as wide at its base as the diameter of the largest arcade column, and tapering upward to a continuous stylobate, on which the bases and columns of the arcade were placed. This foundation has carried the immense weight put upon it, and resisted the effects of earthquakes and time for over 500 years.

The lagoon front of the present palace was thus begun during the reign of Doge Alvise Soranzo, and prior to 1329, probably in 1324. A capital of one of the columns of the great arcade is dated 1344. The years of Soranzo's rule and those following, until 1348, were years of plenty, a time, Sarendo the chronicler tells us, when a Venetian could buy a bushel of wheat, a load of wood or a quarter cask of wine for the equivalent of 96 cents, and have some small coins over. During those years Venice had recovered the islands of Negropont, Zara, Trau and Spalato; had checked the enterprise of the Genoese, and compelled Clement V. to lift the ban of excommunication from the Republic.

New industries then sprang up in Venice, new channels were opened for her commerce, warehouses, factories and an addition to her great arsenal were built, while the Church and the nobility vied with one another and the great confraternities in erecting churches, monasteries, palaces and hospitals whose fronts, beautiful with cusped arches and foliated ornament in a setting of coloured marbles, were made more splendid by colour and gilding.

In 1340 it became necessary to provide a meeting-place for the Great Council, and it was ordered that its chamber should occupy, as it does to-day, the third storey of the palace looking over the lagoon. The plagues of 1348 and 1357 checked the prosperity of the city and the progress of public works so sharply that in 1362 the Great Council ordered that "for the honour of the State the hall of the Great Council should be rescued from the condition of dilapidation into which it had fallen." In 1366 its original frieze of portraits of the Doges was almost completed, for it was then debated in Council whether Marino Faliero should be painted decapitated or a blue panel with an inscription in white letters, undoubtedly the original of the existing "Decapitatus pro criminibus," be substituted. The latter alternative was a mild decision, considering the age and the state of public opinion.

In 1380 the war with Genoa ended in the triumph of Venice. In 1401 the central balcony and framework, as it stands to-day, was ordered to be built "as already designed and planned," and the ceiling of the hall of the Grand Council was to be completed with gilded compartments on a blue stellated ground. In 1419 the Great Council met in its new chamber for the first time, marking the completion of that portion of the palace which fronts on the lagoon and extends along the Piazzetta to and including the sixth column of the lower arcade.

Meanwhile the remainder of the old palace, facing along the Piazzetta to the church of St. Mark, had become ruinous, and in 1422 the Great Council decided that it should be rebuilt "in a proper and becoming style to correspond with the new part of the palace fronting on the lagoon." In 1438 it was so far advanced that Giovanni Bon and his son Bartolommeo were ordered to begin the gateway or main entrance called the Porta della Carta, because paper and writing materials, so necessary for transacting business in the public offices and courts which occupied the entire second storey of the lagoon and Piazzetta sides of the palace, were sold under or near it. The gateway was finished in five years, but the adjoining façade was still in progress, for when the Emperor Frederick II. visited Venice the Piazzetta was still encumbered with building materials.

In 1463 this building was so far finished that Girolamo Valaresso, a traitor to the State, was hanged between the two red columns of its loggia, where the Doge always presided at festivals in the Piazzetta. Five years later the great Sala del Scrutinio was used to house the library given by Cardinal Bessarion to the Republic. The last addition to this part of the palace was its central balcony and framework, corresponding to that on the lagoon front; it now bears the arms of Doge Andrea Gritti, 1523, although it must have been finished long before.

The walls of the ground-floors on the courtyard side of this part of the palace were originally pierced only by the necessary openings for light and air; by a passage-way through the centre of the building on the lagoon side, and three or four doors to give access to other parts of the ground-floors. These were arcaded after 1480. In 1497 the levels of the Piazza and Piazzetta were raised 28 inches, covering up an equal height of the columns of the great arcades, injuring the symmetry of the building and the harmony of its proportions.

The walls of the Great Council Chamber and that of the Scrutinio had no openings on the sides of the great court of the palace until 1552, when the existing large rectangular windows, with Classical framework in Istrian stone, were opened for the following curious reason, as shown by the journal of the greater legislative body which ordered them:—"Whereas experience has shown that many of our nobles absent themselves from the meetings of the Council to avoid the intense heat in their chamber, which is unpleasant and injures their health during the very warm months of the year, it is therefore ordered . . ." These openings were made for ventilation, not to give additional or necessary light, for the accounts of the Council of Ten show that awnings were bought for these very windows. The longer sides of the quadrangle of the Ducal Palace run nearly due north and south, so that the sun's rays strike the inner walls of the Great Council Chamber and those of the Scrutinio during the greater portion of the day.

The above is a summary history of the architecture of the southern and western sides of the Ducal Palace, the largest, the most beautiful, most daring in design of any building erected in Italy for civic purposes during the fourteenth century, for these two parts are substantially the product of the genius of that time; the architects of the portion of later date followed the style, measurements and details of the original work as closely as fifteenth-century workmen could.

Above the massive columnar arcade of its lowest storey the unknown designer of the palace placed the most beautiful pointed and traceried loggias that the fancy of an architect ever worked out in stone, and planned them thus for the accommodation of the many, to give access to the municipal courts and offices which occupied the whole of the second storey of the southern and western sides of the palace. An ample staircase, taken down about 1618, which was placed at the north-west angle of the great court south of and against the buildings of the Porta della Carta, gave access to these loggias.

The two vast chambers of the Grand Council and Scrutinio, with their ante-rooms, occupied nearly the whole of the third storey. At its extreme eastern end, the most secluded part of the building and connected with the Great Council Chamber, its architect designed an armoury, that the nobles might never be taken at a disadvantage in their legislative home—a probable survival of the distribution of the Ducal Palace when it was a great quadrangular fortress, with square towers at the corners connected by curtains and surrounded by water, on the east by a canal, on the south by the lagoon, and on the west and north by a ditch. Its main entrance was then on its north side, nearly opposite to the present door of St. Mark's Church; a drawbridge crossed the moat at this point.

The fourth and uppermost storey of the building under the roof, now called "sotto piombi" ("under the leads"), was originally used for prison cells and as storage-room for archives. It is lighted by beautiful round windows, framed in massive mouldings of Istrian stone with quatrefoil tracery.

The two upper storeys were jealously closed against the public; none were admitted there except Venetian noblemen, those who had business with the State, were in its service, or were its prisoners.

When first finished not a square inch of its great frontage except the shafts of some of its columns and portions of its ornamentation of variegated marbles was left without a touch of artificial colour. We know from Bellini's pictures and from contracts of earlier date, still preserved in the Frari, and from traces still left on the stones of the palace itself, that the coloured marbles of Venetian palaces of the fourteenth and fifteenth centuries were polished, oiled and covered with a species of transparent varnish; that other parts, of white stone or marble, when not painted or gilded, were tinted with a whitish preparation; that all capitals, string-courses and sculptured work, not of coloured marble, were painted blue, green or red, picked out with gilding; that the mouldings of the doorways and windows were stencilled with colour and gilding; that armorial bearings were always tinctured; that gilding was lavished on the tori, necking, capitals and abaci of columns, on string-courses and the spirals of twisted columns, on the lions or pomegranates of the angles of balconies, on the balls of foliated roof ornaments, and that in 1430-33 a Venetian nobleman paid 40 dollars of our present money a pound for ultramarine blue, the best of which came from the East, therewith to ornament the front of his palace, which, when finished, fairly blazed with colour and gilding. One of Bellini's pictures shows that the cornice of St. Mark's and its foliated ornamentation, over 4 feet high, was covered with gold-leaf before 1496. The cornice itself was added about 1419.

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* An essay by Mr. C. Buckingham, published in the *American Architect*.

Two of the spandrels of the great arcade on the lagoon front are filled with geometrical decoration in coloured marbles, and there are traces of similar work in the second storey loggia on the courtyard side. The other spandrels of the lagoon front are countersunk and roughened, ready to be decorated. The spandrels of the fifteenth-century lower arcade on the Piazzetta side are neither countersunk nor roughened. The dentils and mouldings of the great pointed windows of the palace still retain traces of gilded foliated ornament on a blue ground, and on much of the Istrian stonework the violet tint left by the size which held the gold-leaf is distinctly traceable in different parts of the building.

The great fire of 1577 destroyed the roofs and the interiors of both the lagoon and Piazzetta sides of the palace down to the flooring of the third storey. Murray, in the last edition of his "Handbook for North Italy," tells of "calcined and ruined walls, and the falling of one of the corners of the building," but Antonio da Ponte, who built the Rialto Bridge, the architect of the Republic, reported officially that "all the main walls have suffered but little; the damage has been done to the cut stonework of the windows, their traceries, and to the gargoyles and battlements of the roofs, which have been injured by the flames, but can easily be replaced." The fire had consumed only the inflammable parts of the two upper floors, for in less than ten months afterwards the Great Council met again in its great chamber. The flooring of the upper storeys of Venetian palaces was always covered by several inches of cement, in which small irregular pieces of coloured marbles were inserted, levelled and polished when set. The preservation of the rest of the palace was, doubtless, due to this custom.

The great halls of the Scrutinio and the Great Council had been gutted, and the work of eminent artists and decorators for a hundred years had perished. Guariento had painted his "Paradise" on the eastern wall of the Great Council Chamber, and Pisanello, Gentile da Fabriano and the two Bellinis had been employed for years in decorating it, but in 1474 it needed repairing and redecorating, and Gentile Bellini, *nostro fidelissimo*, was ordered "to repair, restore and repaint wherever necessary." In after years Vivarini, Perugino, Pordenone, Paolo Veronese, Tintoret and the great Titian embellished its walls and ceiling. Pordenone had an assistant, whom the Venetian clerk of the works noted down, in his local dialect, as Vector Scarpazo; we call him Victor Carpaccio.

The twelve great pointed windows of the Ducal Palace had until 1577 looked down for generations upon the daily life of Venice. Paintings and engravings prove that their traceries had remained intact until then; after the fire all of them except those in the two windows at the eastern end of the lagoon façade were found to be bady damaged and were taken out. They were not restored, because public taste had then turned to Classical forms in architecture, and were not left out for the purpose of giving additional light within, for the artists and decorators who painted and carved during more than a century in the great chambers behind them, and the men who daily looked through them and legislated by their light, never complained of any want of it.

These windows are all four-centred and were originally of three lights, formed by twisted colonettes and two half-shafts in the reveals. The capitals of the colonettes and half-shafts were foliated, and carried the tracery of three small pointed cusped arches with geometrical openings in the window-heads. The projection of their jambs and haunches is moderate, and their extrados are Venetian dentils. The slight, but deep, splay of their reveals has two boutels with shallow scoops between. In all of them the tracery was deeply set back and the glass in wooden frames behind and detached from it, a peculiarity of all Venetian pointed building. All the windows without tracery still retain the half-shafts and their capitals in the reveals, and show marks of it in their haunches, and many of the bases of the colonettes are still in place.

The two eastern windows of the lagoon front lighted what once was the ante-room of the Great Council Chamber and the armoury; they are evidently the earliest in date. The other four of this façade gave light to the hall of the Great Council, more than 170 feet long, 80 broad and 50 high. The Piazzetta front was made beautiful by six windows, faithful copies of those in the sea façade.

The two referred to as still retaining their tracery are those which opened into the armoury and ante-room. The tracery of that nearest to the angle on the canal is intact, substantially as built in the first half of the fourteenth century; the bases and shafts of its twisted colonettes are of red Verona marble, the half-shafts and the tracery of Istrian stone. The tracery of the next window is of a different design, but geometrical; its colonettes, half-shafts and mouldings are like that of its sister opening, but were restored or repaired after the fire of 1577.

When the lagoon front of the Ducal Palace was built the stylobate—now buried several feet—on which the columns of its lower arcade rest rose sheer from the water; the quay which now runs along it was added subsequently and broadened. A bridge across the canal which washes the base of the whole eastern side of the great building, and which is spanned further on by the "Bridge of Sighs," connects this quay with the adjoining "Quay of the Slavonians."

From this bridge can be seen, in the second storey of the palace, on the side overlooking the canal, two large pointed windows of two lights, formed by a twisted marble colonette; the heads of these openings are filled with geometrical tracery. In plan, section, elevation and details they are very like the two great windows of the façade around the angle.

These large side windows and the row of smaller ones in the storey above are early fourteenth-century work; some of the latter have been altered, but the larger ones are original and intact, and escaped injury during the great fire of 1577.

When first built, colour and gilding were lavished on all these twelve great openings. The faces of their Venetian dentils were gilded and their inclined surfaces coloured blue and red alternately; their jambs and haunches were stencilled blue, red and gold in a foliated pattern. The faces of the spirals of their twisted colonettes were gilded, while their capitals and those of their half-shafts were coloured blue, relieved with touches of gilding and gilded abaci. The mouldings of their traceries were gilded on their faces and coloured red and blue in the openings.

The Ducal Palace has lately been ruthlessly "restored" in all its parts, save that ten of its twelve great pointed windows are still bereft of their original and beautiful decorations.

THE ARCHITECTURE OF THE TWENTIETH CENTURY.*

To transport oneself into the middle of the new century requires perhaps more imagination than an architect in everyday practice has at his command, but it is interesting and perhaps instructive to try and think out the problems which are likely to harass the architect of the new century, and to picture in our minds how he will solve them. The following remarks are, therefore, necessarily speculative, because I am breaking away somewhat from the hard facts of the present and dealing with what may come to pass, say fifty years hence. Our subject is the Architecture of the Twentieth Century. Perhaps it will not be unwise to put the question to ourselves, What is architecture? The answer to the question is really that which we shall give as the result of our imagination for the coming century. Architecture is the result, the record of civilisation, the permanent expression of the people, the great Recording Angel who writes on indestructible granite the manners and customs, the very lives of the people in whose times such architecture is carried out. Let there be no mistake in this, that architecture in this respect is as true now as it was in the times of the Egyptians, Assyrians, Greeks, Romans or Mediævalists. Then as now it records our lives, our civilisation, our mental and social conditions, as truly as does any mirror the man who stands before it. It is evident that, since the Renaissance, the record is more subtle, the pictures less clear, but that is because our civilisation is more complex and our methods more obtuse. When architecture ate of the tree of knowledge in the fifteenth century, and seized upon the outspread manuscripts and splendid structures of old Rome, she was doing something which, until then, was an unknown quantity in the world of art. Architecture until that time had been the spontaneous growth, the natural unbidden fruit of a tree planted on various soils, and hence bore varied natural fruit, the result of such planting. In the fifteenth century, however, such a natural cause of growth was abandoned, and architecture, as far as outward form was concerned, went back like a bow unstrung to the ancient forms of Classic times. In other words, the revival of the learning of the ancients tended to produce the revival of the forms extant during the period of the Greek and Roman ascendency. And so it must always be; architecture is made by the people, and, nolens volens, it must bear the impress of the people's mind, although at the time it may be difficult to discern. Placing aside for a moment the new types of structures demanded by succeeding generations of men for their use, let us glance at the ever-recurring question of style in architecture and see if we can picture that style of architecture which will be paramount in the dim and distant future. Of one thing we may be certain, I think, and it is that whatever style in architecture may be in vogue, Classic, Mediæval or Renaissance, it will be so adapted to the needs of the people that its form will be to all intents and purposes new. We shall be spared the absurd and pedantic Greek temples which were erected as dwelling-houses at the beginning of this century, or later, the lath-and-plaster Gothic palaces which were to transport us back to the Middle Ages. The world is now too matter-of-fact and too much addicted to reviewing buildings from the practical and sanitary point of view to put up with such chicaneries. Fashions in architecture we shall have as we have fashions in ladies' attire, or, for the matter of that, in men's garments; but we can safely predict that convenience in planning will not be sacrificed to outward form, and that the sizes of our floors and windows will not be subordinated to anything but our requirements and convenience. Beyond that we may strain our eyes in vain along the architectural horizon in search of an advance copy of the style which will prevail. And this the more so because we must look unsuccessfully for new forms, unless we have new materials which will evolve such forms. It must be remembered that we are using the materials that the Romans used in our architecture, and although the difference is great compared with Roman architecture, yet it is comparatively little when the distance between the one and the other is remembered. It is only by "ringing the changes" on the various architectural forms and features that we can see the future of architectural design. I think it was Lord Eldon who said that "architects and lawyers were the most conservative people in the world." Perhaps his lordship did not remember that both Roman law and Roman architecture had reached a perfection of completeness beyond which it was difficult to go, and that, therefore, what appeared as conservatism was merely the inability to go further. Certain it is that architecture, like language, is a structure built up of certain well-known forms or letters Now, in language it is not necessary to alter the number or names of our letters to produce a nineteenth-century literature. Tennyson and Shakespeare use certainly the same letters and also largely the same words, yet one is not a copy of the other. The same in architecture. Because once or twice in the history of architecture there have been revolutions in form, as from Classic to Gothic and Gothic to Renaissance, people have come to expect what they call a new style in architecture every century or so, but such a thing is unlikely. It is in the putting together of various features that new phases in architectural art are introduced, and not by wholesale destruction and invention of new ones. To tell the truth, such invention is well-nigh impossible, for if we take such homely instances as a door, a window or a fireplace, it is impossible to alter much the form of either as long as the size and position of the same remain similar and appropriate. Thus architectural style will probably not vary much from the Renaissance form at present in vogue for public buildings or the Gothic for ecclesiastical buildings But whatever form is current there is no doubt that freedom—almost license, I had said—will be paramount. Such is the spirit of the age, thence the architecture will reflect such spirit. We need, I think, expect no more revivals. Architects will be honest in this. The attempt to foist imitations of another century, as in the Greek and Gothic revivals, will probably not recur, but design will travel along the smooth line of careful inventiveness without any revolutionary tendencies. But in any case, as we shall see later on, difference in the needs of the people will produce buildings new in form and outline, if not of necessity largely so in architectural detail. It is the age of the democracy, and the buildings of importance, such as the libraries, public halls, &c, will tend to show the turn of civilisation in these constructions. If there is one thing more in evidence, and likely to be so than another, it is the complicated and intricate planning which many modern structures require I shall refer to these later, but it must be apparent that these structures are quite modern in feeling and form, and that little of their character has been seen before. It is true that during the great Roman period of architecture emperors vied with each other in the erection of public baths for the people; but these are isolated instances erected as a bribe to the populace. From the plan of a building is developed its general form, from the functions of its various parts are evolved its exterior, and as the various types of buildings alter, so does the architectural elevation vary with them. But before I pass on I must refer to the science and profession known as engineering, which, formerly in the architect's province, has now quite dissociated itself from its elder sister. There seems no doubt that, to posterity, the great engineering structures will appeal as essentially of the nineteenth century; such works as the Forth Bridge, the Eiffel Tower, the Tower Bridge, the Brooklyn Bridge and many others are essentially new in form, born of a new material—steel—which by necessity has evolved forms quite new in the world of design. The number of such works will no doubt be largely increased, and the twentieth century will probably be known as the "Steel" age. It is only to be hoped that the hideous structures perpetrated under the name of engineering will be improved in outward appearance, as they could easily be, by engineers being trained along with architects in their early studies. In France great engineering structures of this kind are often designed jointly in the manner indicated above, and this has been followed by very encouraging results, as at the Paris Exhibition of 1889. As far as civil architecture is concerned there is little chance of the use of steel superseding that of other materials. Steel is not suitable for forming the walls of our houses. It is a conductor of heat. It is used in thin lace-like shapes, and is quite unsuited to keep out heat, cold or the elements. Hence, although it is sure to be used for large engineering structures or in isolated cases demanded by peculiar conditions, as at Chicago, it is not likely to be a factor in the construction of architectural forms *per se.* Its increasing use in warehouse roofs of large span will tend to alter interior architecture considerably. Instead of the ponderous wooden roofs erected in the past, a light steel framework, covered with plaster in coffered panels is likely to be largely used. The lace-work design and construction of the ribs prevents any necessity for tie-rods, and thus gives a new element in architectural design which should produce new treatment.

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* A paper read before the Birmingham Architectural Association by Mr. Banister F. Fletcher on February 8.

Architecture and Public Health.

It is admitted that architecture consists in the designing of beautiful buildings suitable for the special purpose to which they will be put, and having, therefore, the essential quality of fitness. There can be no doubt that the healthy arrangement of buildings has much to do with architecture in its highest sense, and considerations relating to the health of the occupants of buildings affect the form and structure, and therefore the expression of buildings. In the coming century this will be even more distinctly the case, because there can be no doubt that the principles of sanitary science will be more strenuously sought after and more rigidly applied. It might be argued that beautiful buildings are not necessary to health; but I maintain that to live among beautiful buildings set in well-designed streets does help to a healthy condition of mind. Paris as a city is perhaps too stereotyped in its architecture, too stiffly set in the framework of her streets; but one never visits it without feeling mentally in a beautiful atmosphere, which is, of course, sometimes counteracted by the unmistakable signs which seem inseparable from continental cities, that the system of drainage is not quite perfect.

Environment.

I am stating an admitted truth when I say that environment is a great power—a great factor—in the formation of character, and in the general well-being of any community. How can we expect the gutter children of London to grow up as good citizens, as honest, sober and manly, when they pass their lives in the filthy atmosphere of a London slum, with a square of dirty pavement for a playing space and with a gin-palace for a background? We might as well try to get blood from a stone as citizens healthy in mind and body from such a nursery. Slums are to a certain extent being exterminated, but if I judge the future aright, we are only at the beginning, and that by the middle of the coming century municipalities will have agreed that slums are as dangerous to the community as unhealthy drainage, and that light and air and plentiful sunshine shall find an entrance as far as possible into every quarter of our ideal city. What more can we look forward to, Mr. Chairman, than beautiful buildings, filled with light and suitably built from a sanitary point of view, and set on to broad streets so aligned that the sun's rays can penetrate during the greater part of the day? So much, then, for the element of fine art in regard to the house proper and its frame, the city beautiful, which I contend should be considered in relation to health arrangements. Further, the architectural conception of life is what we want—the idea of one controlling spirit guiding all others for the common weal and producing works of beauty, forming part of a general process, the same kind of co-operative labour which resulted in the erection of the Parthenon and the Mediæval cathedrals.

Sanitation.

We may spare a few moments to speculate on the construction of houses in the new century, dealing with the subject—(*a*) From the point of view of plan, (*b*) from the point of view of construction, (*c*) materials, (*d*) ventilation, and we may well preface these remarks with a suggestion for the necessity for a minister of public health, assisted by a committee of experts. Such an appointment is necessary in order to codify the enormous amount of literature on the subject and to place the carrying out of the Acts, if neglected by local authorities, in the hands of those who will not be under local influence, and who will have power to enforce the law. I shall touch upon this later when I come to consider the smoke abatement nuisance.

Plan.

Sanitation or public health will be the watchword of the new century. Pure air, pure water, pure food, pure soil, clean dwellings and clean bodies will constitute the well-being and strength of a nation. The more efficient sanitary arrangement and construction of our dwellings has been advancing steadily in later years, and lectures and treatises have been written galore on this most important subject, and yet how much remains to be done to render our dwellings in a sanitary condition. By the more general teaching of hygiene people may be expected to see more clearly the necessity for a soundly-constructed dwelling whereby doctors' bills may be avoided and a more efficient day's work performed by the occupants. If we consider how often the ills that flesh is heir to are due to badly-planned and constructed houses, it does seem startling that anyone is entitled to call himself an architect and be responsible for that most important of sciences—the planning of buildings—but this will be referred to later. The advance in the system of planning buildings has been considerable in recent years, and no longer are houses arranged with the sanitary apartments ventilated on to the staircase or passage. Yet this was a common practice in the past, and there are numerous houses in London on the great landlords' estates where such cases exist even now.

Construction.

In the twentieth century certain anomalies in the construction of houses, it is hoped, will disappear. Amongst the most notable of these are the spaces specially provided by architects for the collection of filth, for the storage and breeding of vermin and the dissemination of disease. I refer in particular to the time-honoured method of constructing the ordinary combustible timber floor. It is useless lecturing on sanitary science while such a harbour for dirt is erected in almost every house. Washing such a floor possibly only makes matters worse, for half of the dirt is washed through the open joists between the floor, and rests contentedly on the laths which support the plaster ceiling below. Our floors must be solid if we would have them healthy. Hollow spaces of all kinds will, no doubt, be condemned by law in the coming century. Hollow floors, hollow walls, hollow spaces behind skirtings and the like will be a thing of the past.

Materials.

Since architecture first began to raise herself to the level of fine art, there has been very little change in materials used in the erection of buildings. Stone, brick, concrete, marble, terracotta and wood have been the materials at command, and although the manner of working them has varied, this has been brought about largely by the social condition of the period. In the twentieth century we can dream of no fresh addition of any material which is likely to revolutionise form. Steel we have already at our disposal, but one can hardly imagine that in works of pure architecture it will ever oust the older materials, although it has almost completely done so in the domain of engineering. The use of wood in buildings seems likely to be less and less adopted in interior fittings, and it is doubtful whether many good substitutes for it may not be found, especially in such parts of a building as floors. This is foreshadowed for us in the construction of modern hospitals, where the floors are in most instances made of some non-absorbent material of a concrete nature, which can be thoroughly cleansed. In some modern buildings which are not hospitals this method has been adopted. In the Great Central Hotel, London, there is no wood used except for doors and windows, and there is really no reason why any architectural features except doors should be of wood. In the hotel mentioned the floors are of steel joists and concrete, the upper surface covered with mosaic, and the skirtings, which in most houses are of wood, are of cement instead of the objectionable wooden skirting, behind which are the usual dirt-traps. It does not seem that expense stands much in the way of the adoption of solid concrete floors, and the latest decision of the London County Council permitting fireproof floors to be constructed of fir joists and concrete has much reduced the cost of such work. One element of inflammability is therefore done away with, besides placing the building in a much better sanitary condition. For all buildings the tendency is to cultivate the use of fire-resisting construction, and there can be no doubt that this will be greatly extended in the future.

Ventilation.

Ventilation in general will no doubt proceed on lines of general advancement, but except in public buildings nothing that could be called mechanical ventilation will be attempted, the expense of such systems being too great. In theatres, music-halls, public assembly-halls, churches, &c., it may confidently be asserted that great improvements in the proper provision of pure air will be effected. It certainly does seem a curious thing that although the science of ventilation has passed the preliminary stages and may now be said to be an exact science, yet the amount of air necessary to be pumped into our meeting-halls and churches is not regulated by any Act of Parliament. It would therefore appear that the legislature does not believe fresh air to be a necessity to existence or even to good health, although it may be observed that the Houses of Parliament are probably the best ventilated buildings in the land. Our Building Acts and Public Health Acts regulate the construction of buildings and provide in special cases for a certain amount of cubic space per person; but as regards the ventilation of public meeting-halls, they are practically inoperative. The improvement which may be expected to accrue to the health of the community at large by breathing fresh air, properly warmed and admitted without draught, when crowded together in large numbers is not to be over-estimated. It is certain that such provisions cannot be much longer omitted from the Public Health Acts, and the present disgraceful condition of our public meeting-halls will then be altered for the better. We have been termed "a nation of shopkeepers," but I think a more appropriate term, at least during a certain proportion of the day, would be a "nation of lookers on," and I am bound to say that I think this national characteristic, which, be it said, we hold in common with other nations, will extend. The increase in the numbers of theatres, music-halls and concert-halls which will be erected to supply this demand will probably be very large, and even the small provincial towns may be expected to be provided with such buildings, properly ventilated according to the latest sanitary knowledge in ventilation.

(*To be continued.*)

TESSERÆ.

Early Bookbinding.

THE earliest records of bookbinding prove that the art has been practised for nearly 2,000 years, previous to which time books were written on scrolls of parchment. Some inventive genius, however, to whom the Athenians erected a statue, at length found out a means of binding books with glue: the rolls of vellum, &c., were cut into sheets of two and four leaves, and were then stitched somewhat as at the present day. Then came the necessity for a covering. The first book covers appear to have been made of wood, probably merely plain oaken boards, which were afterwards succeeded by valuable carved oak bindings. These were followed by boards covered with vellum or leather, and specimens of such of great antiquity still exist. The Romans carried the art of bookbinding to considerable perfection, and some of their public officers had books called "Diptychs," in which their acts were written. An old writer says that about the Christian era the books of the Romans were covered with red, yellow, green and purple leather, and decorated with silver and gold. In the thirteenth century some of the gospels, missals and other service books for the use of the Greek and Roman churches were covered in gold and silver. Some were also enamelled and enriched with precious stones and pearls of great value. In the fifteenth century, when art was universal, such men as Albert Dürer, Raphael and Giulio Romano, decorated books. The use of calf and morocco binding seems to have followed the introduction of printing, and there are many printed books bound in calf with oaken boards about the fifteenth and beginning of the sixteenth centuries. These are mostly stamped with gold and blind tools. The earliest of these tools generally represent figures, such as Christ, St. Paul, coats-of-arms, &c., according to the contents of the book. In the reign of Henry VIII., about 1538, Grafton, the printer, undertook to print the Great Bible, for which purpose he went to Paris, there not being sufficient men or types in England. He had not, however, proceeded far when he was stopped in the progress of this "heretical book," upon which he returned to England, bringing with him presses, type, printers and bookbinders, and finished the work in 1539. Henry VIII. had many books bound in velvet, with gold bosses and ornaments, and in his reign the stamping of tools in gold appears to have been introduced. In the reign of Elizabeth some exquisite bindings were done by embroidery, the queen herself working the covers with gold and silver thread, spangles, &c. Count Grolier seems to have been a great patron of the art on the Continent, and all his books were bound in smooth morocco or calf ornamented with gold. The style of the books of Maioli was very similar to that of Grolier, or those of Diana of Poictiers, the specimens done for her being among the finest ever produced, and were no doubt designed by Petit Bernard. Roger Paine was the first Englishman who produced a really good binding, and some of his best works, such as French romances, were powdered with the fleur-de-lis. His books on chivalry had suitable ornaments; on poetical works he used a simple lyre, and carried the emblematical style of binding as far as emblems ought to be used.

Hollar's Views of Windsor Castle.

In Ashmole's "Order of the Garter," a book published in the beginning of the reign of Charles II., there are many views of Windsor Castle, taken without the walls, by Hollar. The first and principal view is a bird's-eye representation of the castle drawn from the south-east, and probably from the tops of some of the lofty elms near this spot. Second view, the east front. Third view, north view. The name of Christopher Wren is to this print as draughtsman. Fourth view, west front. Fifth view, south-west front. From these views it is believed the castle stood then in much the same state as left by Edward III., who enlarged and beautified the old castle founded by William the Conqueror and finished by Henry I. Soon after Hollar had collected his drawings Charles II. (Sir Christopher Wren being the architect) made considerable alterations in the fronts, south, east and north. Hollar shows us that on the south front, between every tower from the east angle to the circular tower where the entrance is, leading to the upper ward or court, run rampart walls supported by buttresses. These buttresses were taken away by Charles, and windows, &c., inserted as now seen. The rest of this front running to the west (allowing for the alteration in the wall opposite the Queen's Lodge) continues unchanged. The great gateway, indeed, entering into the lower ward was built by King Henry VIII. The terrace on this and on the east front, rising out of the fosse, was the work of Charles, which fosse, according to Hollar's views, was complete in his time on both these fronts. The east front had rampart walls and buttresses between the towers, and was altered like the south front by Charles. The north front, from east to little more than half the line, consisted of a succession of towers without rampart walls, and was replete with a fine display of bower and other windows. This range, to that part erected by Henry VIII. and Elizabeth, and nearly opposite the Round Tower, was altered by Charles, and he also reconstructed the terrace on this front first raised by Elizabeth. The rampart walls and towers in continuation are in their original forms.

Japanese Houses.

The Japanese dwellings are always of wood, usually of one storey and unpainted Rarely does a house strike one as being especially marked or better looking than its neighbours ; more substantial certainly some of them are, and yet there is a sameness about them which becomes wearisome. Particularly is this the case with the long uninteresting row of houses that borders a village street; their picturesque roofs alone save them from becoming monotonous A closer study, however, reveals some marked differences between the country and city houses, as well as between those of different provinces The country house, if anything more than a shelter from the elements, is larger and more substantial than the city house, and with its ponderous thatched roof and elaborate ridge is always picturesque One sees much larger houses in the north—roofs of grand proportions and an amplitude of space beneath, that further south occurs only under the roofs of temples. Such are the houses of the better classes. The poor farm labourer and fisherman, as well as their prototypes in the city, possess houses that are little better than shanties, built, one might almost say, of chips, paper and straw. But even these huts, clustered together as they oftentimes are in the larger cities, are palatial in contrast to the shattered and filthy condition of a like class of tenements in many of the cities of Christian countries.

GENERAL.

The General Purposes Committee of the London County Council propose that a new standing committee of the Council should be appointed for the purpose of considering and reporting upon questions relating to historic buildings in London, and of dealing with the preservation and publication of the historical records of the Council, the administration of the library and other cognate matters.

The Portrait of himself, which the late Edmond de Goncourt bequeathed to the Louvre, will not be accepted by the authorities, although it is the work of M. De Nittis. It is hoped that a place will be found in some other museum of Paris.

Sir Francis Cook, who died on last Sunday, possessed one of the finest private picture-galleries in England. Sir J. C. Robinson was his principal adviser. It is believed that all the objects in the gallery have been made heirlooms, and they will doubtless continue to be as accessible to students as they were during the collector's lifetime.

Mr. A. H. Morgan has been elected an Associate of the Royal Society of Painter-Etchers and Engravers.

Mr. J. B. Hardman, head of the firm of Hardman, Powell & Co., art metal workers of Newhall Hill, Birmingham, and London, has received a Papal brief conferring upon him a knighthood of the Order of St. Gregory the Great.

Mr. A. G. Pirie has presented to the City of Aberdeen plates and drawings of peculiar interest. They comprise three etchings by Prince Albert, three drawings by Queen Victoria etched by Prince Albert and five drawn and etched by the Queen.

The Barracks to be erected at Sandringham for the use of His Majesty's Household troops when the King and Queen are staying there, will probably be built at Gaywood or Castle Rising. A new wing is to be added to the royal residence.

The Corporation of Harrogate propose borrowing 49,000*l.* for a Kursaal to be built on the Spa estate, for the purchase of the Starbeck baths and springs, and for other purposes.

Mr. Thomas Blashill will read a paper on Monday next before the Surveyors' Institution, entitled "The Present Condition of the Building Industry."

A New Organ is being built for York Minster. By an ingenious arrangement the wind for the instrument will be supplied by means of power obtained by a fall of water from one of the towers of the cathedral, the water being pumped up the tower by a gas-engine. Some thousands of pipes will be employed in its construction, and the total cost will exceed 4,500*l.*

The English and American Students at the Ecole des Beaux-Arts have expressed dissatisfaction at the decision of the Superior Council, that in the event of the jury awarding the first place to a foreign student, that student will only be allowed the medal and prize, the money being reserved for the first French student.

The Royal Amateur Society will hold their annual exhibition from March 26 to March 30. The loan annexe will consist of memorials of Old London of artistic and historical interest, prints, pictures, jewels, miniatures, Battersea enamels, ironwork, flint-heads, &c.

M. Paul de Vigne, the well-known Belgian sculptor, died last Friday. Many of his statues adorn the public buildings of Brussels.

The Wilts County Council have directed that application should be made to Sir Edmund Antrobus with a view of ascertaining whether he would be disposed to accept proposals from them for the exercise of their powers under the Ancient Monuments Protection Act, 1900, in relation to Stonehenge.

The Hampstead Council, in connection with their electric-lighting works, have bored to the extent of 500 feet, and intend to bring water from a depth of 600 feet. The cost of the work will be nearly 700*l.*

Dr. W. Schlich will read a paper on Wednesday next before the Society of Arts dealing with "The Outlook for the World's Timber Supply."

Mr. Leonard Stokes, of London, the assessor appointed by the Corporation of Leeds, has awarded Mr. William Bakewell, architect, the first premium in the competition for the Branch Free Library, Nineveh Road, Holbeck, Leeds. The second prize went to Messrs. Buttery & Birds, of Leeds and Morley.

A Meeting of the Northern Architectural Association will be held on Wednesday next, February 27, at 7.30 P.M., at 36 Northumberland Street, Newcastle-upon-Tyne, when Mr. Algernon P. B. Barker, B.A., of Newcastle, barrister-at-law, will read a paper on "Legal Topics of Interest to Architects and Surveyors."

The Institution of Junior Engineers will hold its next meeting on Friday, March 2, at 8 P.M., at the Westminster Palace Hotel. A paper will be read on "Carburetted Water-Gas," by Mr. Samuel Cutler, jun., M.I.Mech.E.

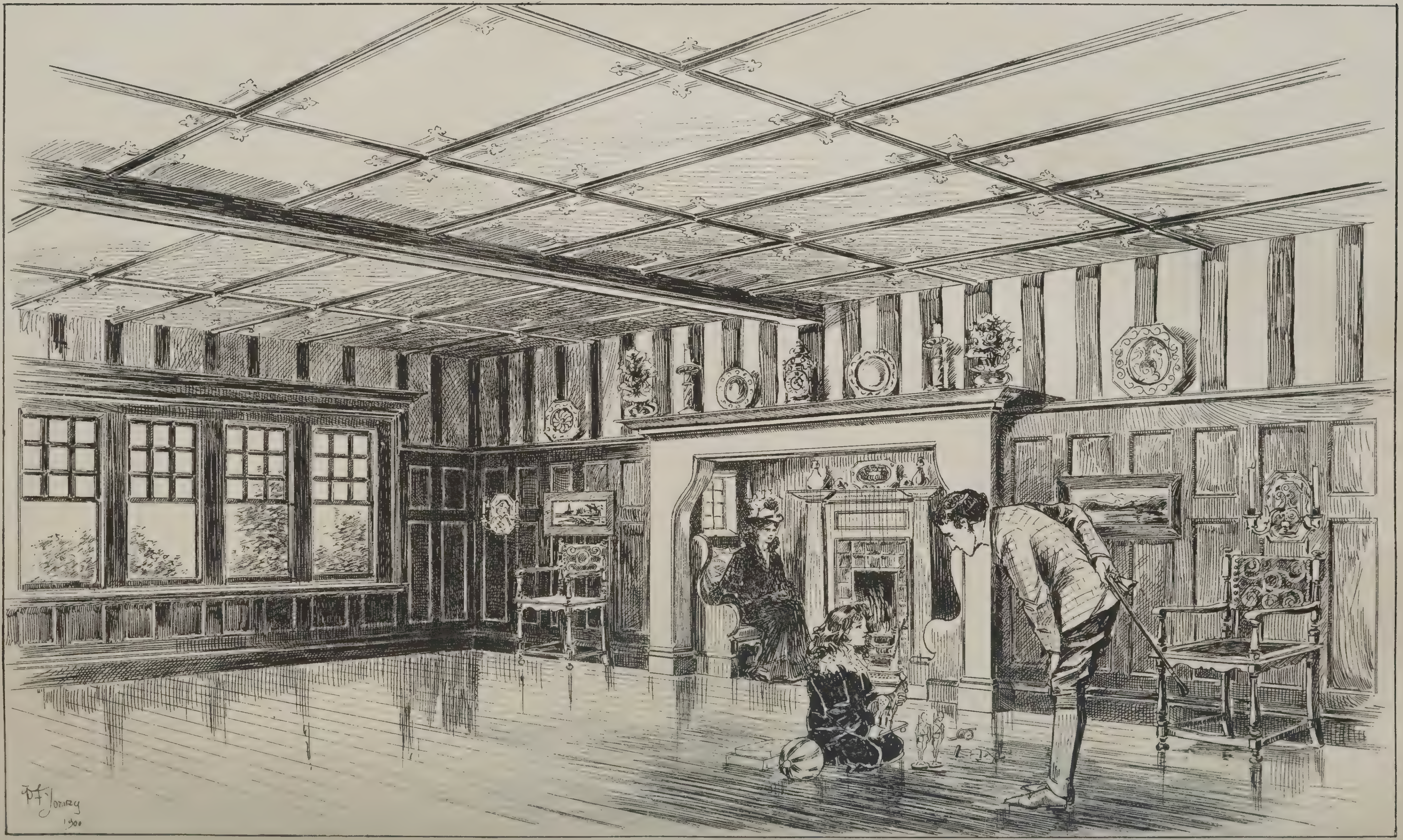
The Statue by M. Rodin which Mr. E. Beckett, M.P., is about to present to South Kensington Museum will probably be *The Creation of Man*, which is considered a characteristic work of the distinguished sculptor. The other statue by M. Rodin which is to be presented to the museum is *St. John the Baptist.*

Mr. T. J. Bushell, of Manchester, has won the first premium in the competition for the proposed Swinton Public Baths.

The Artisans, Labourers' and General Dwellings Company propose during 1901 to complete the building of a further fifty-eight maisonettes on the west side of Hillside Road, Streatham, and to commence building operations on the lower ground in Kingsmead Road. Mr. H. B. Measures is architect.

Midshipman Ralph G. Dinwiddy, R.N. (sixth son of Mr. Dinwiddy, F.R.I.B.A., F.S.I.), is for the second year announced by the Admiralty first in the Royal Naval Examination of Junior Officers afloat Mr. Dinwiddy's total marks are 3,501, the second scoring 3,059. He is awarded special prizes for French and Spanish ; 637 officers were examined.

LIBRARY



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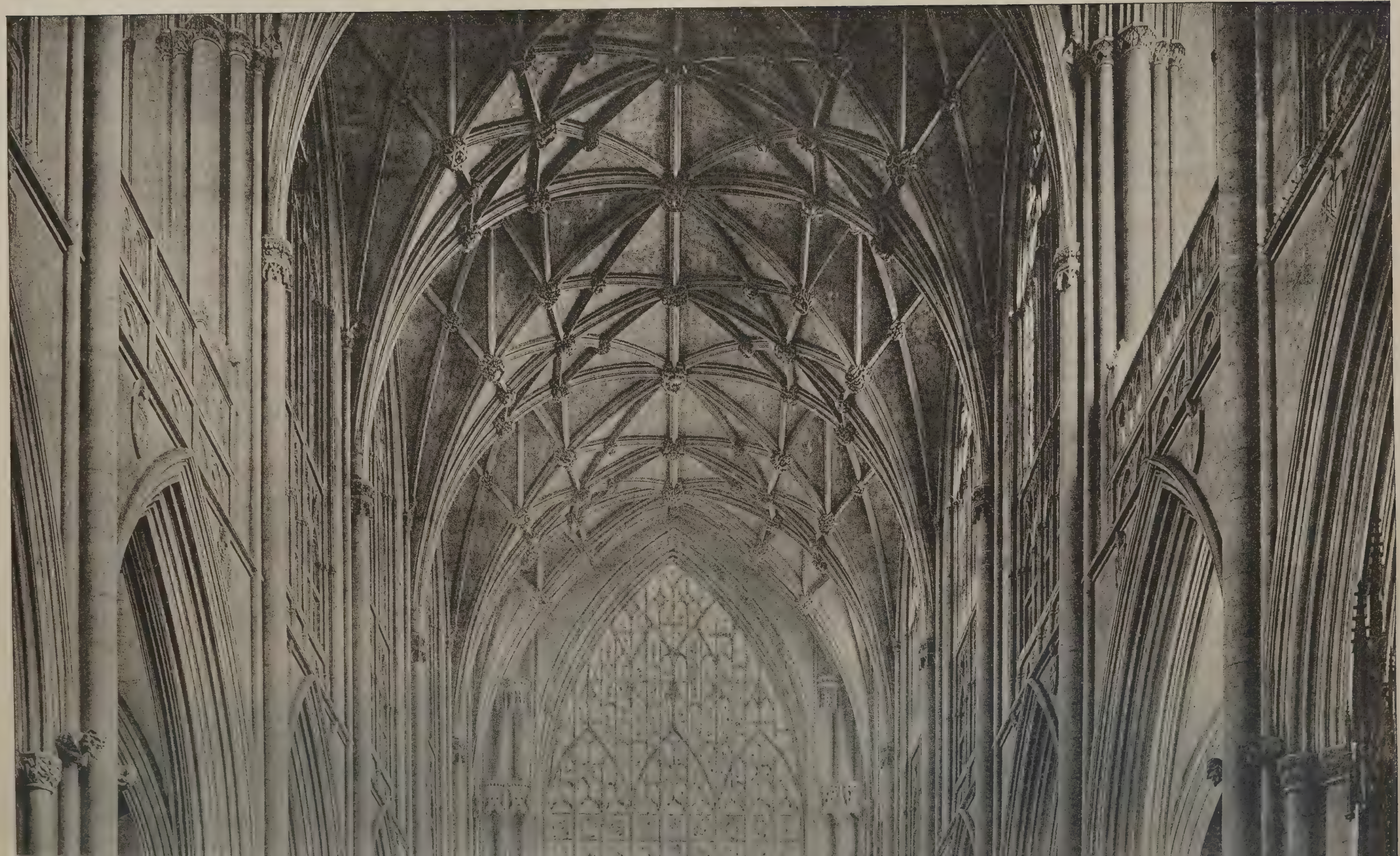
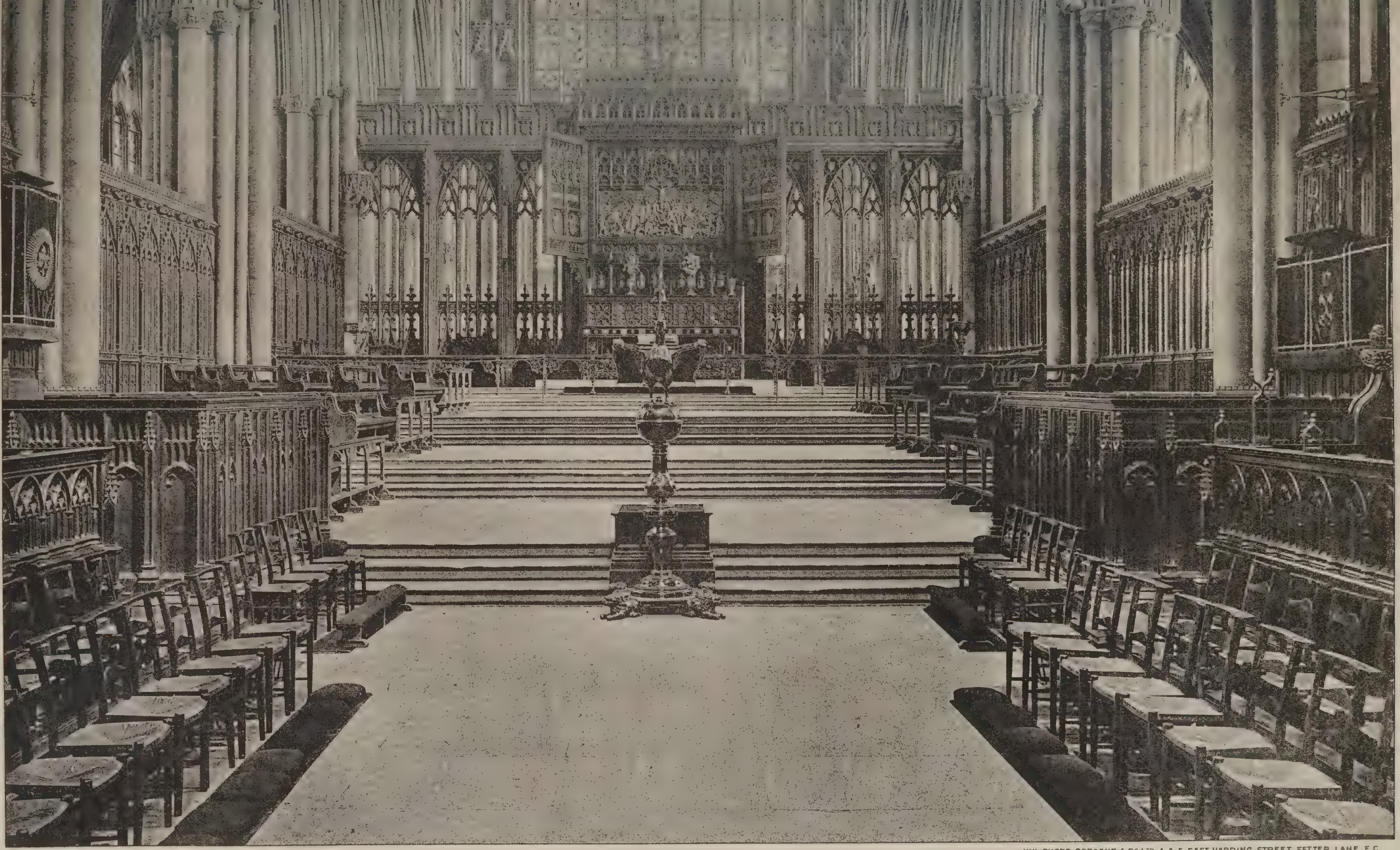
ADDITIONS TO "STYLE ACRE," WALLINGFORD.

REGINALD MORPHEW, Architect.





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Cathedral Series, No. 320.—York Minster: The Choir, Half Length.

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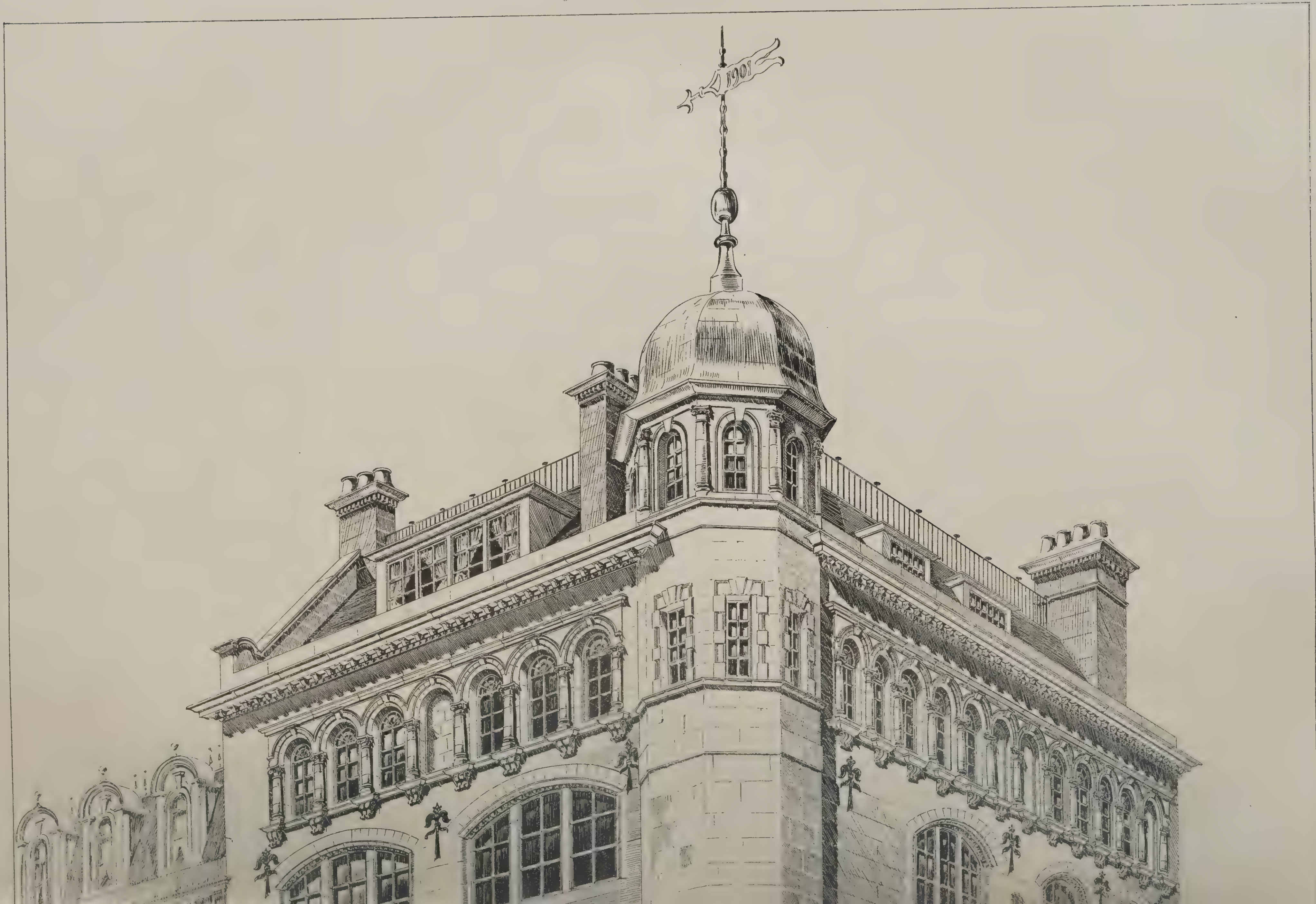
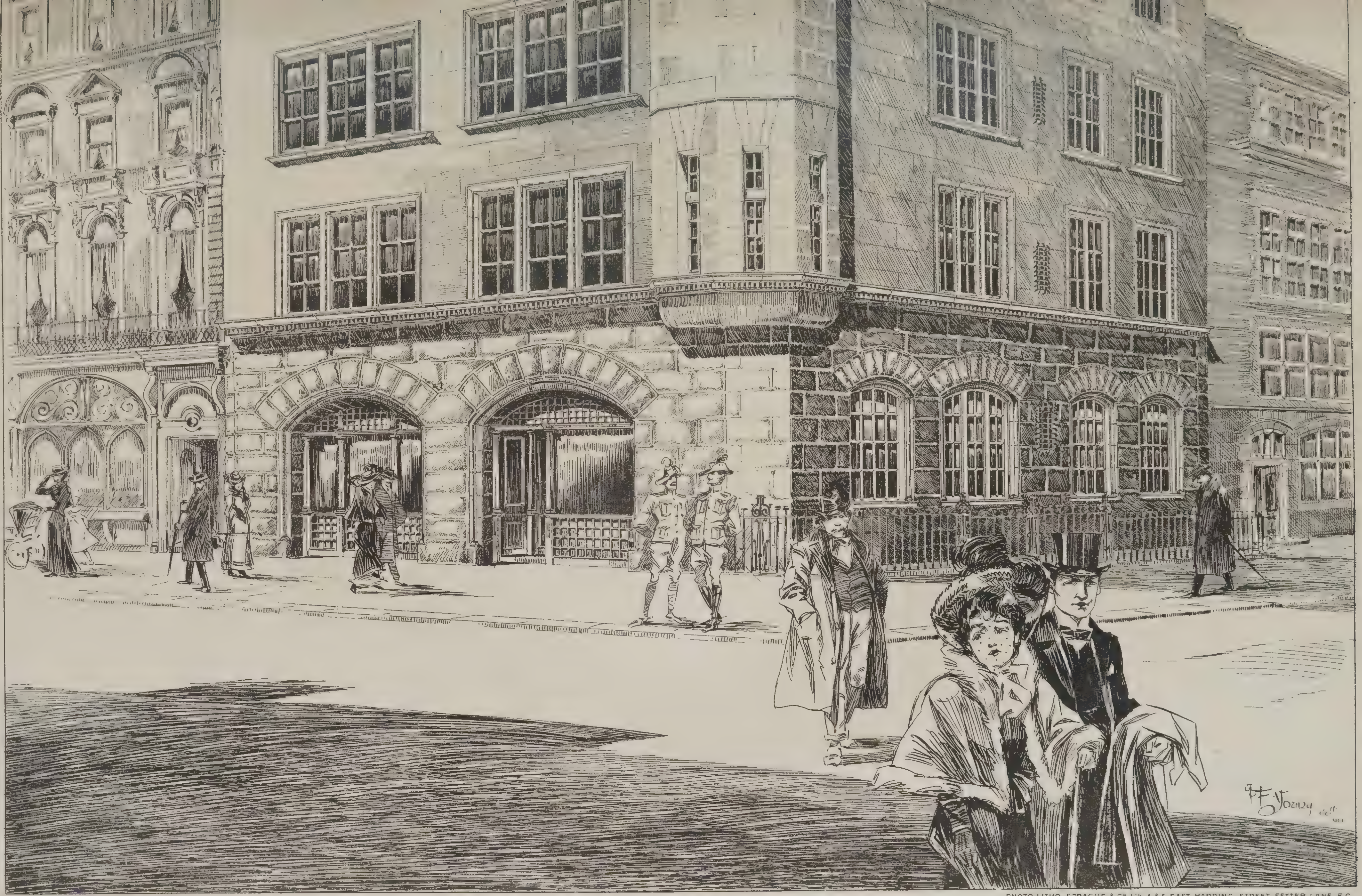
UNIVERSITY OF ILLINOIS

The Architect, Feb 22nd 1901





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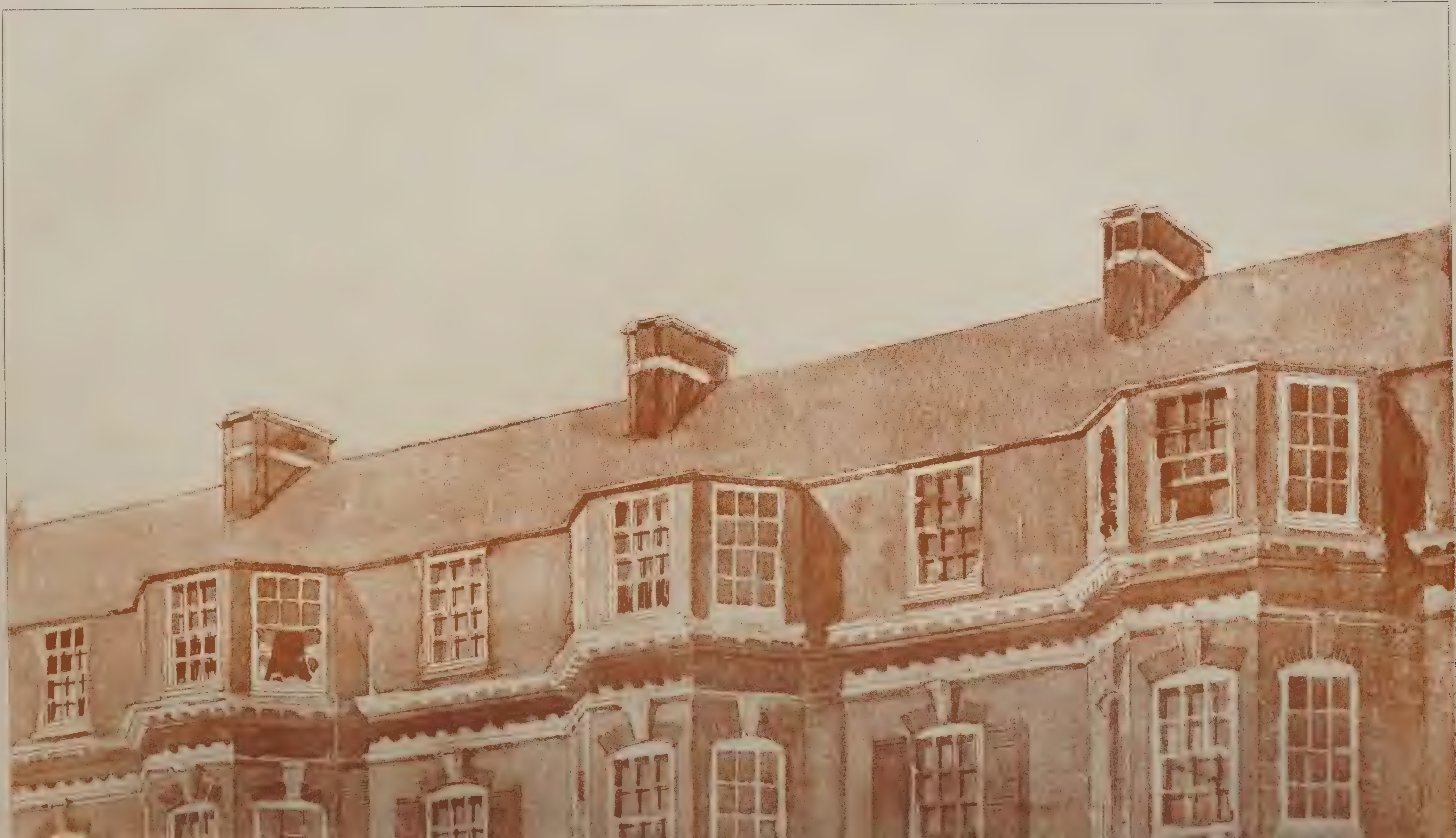

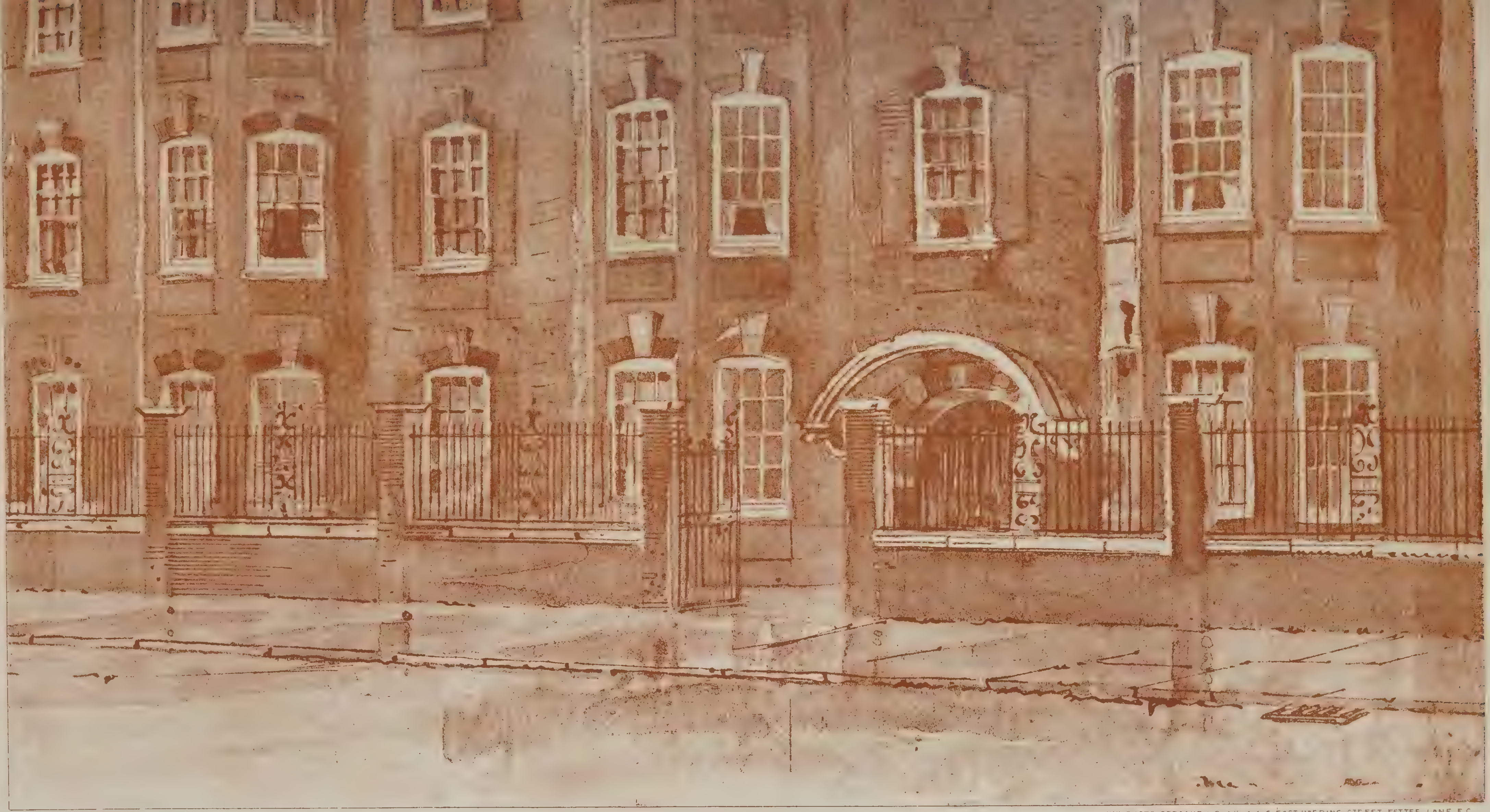

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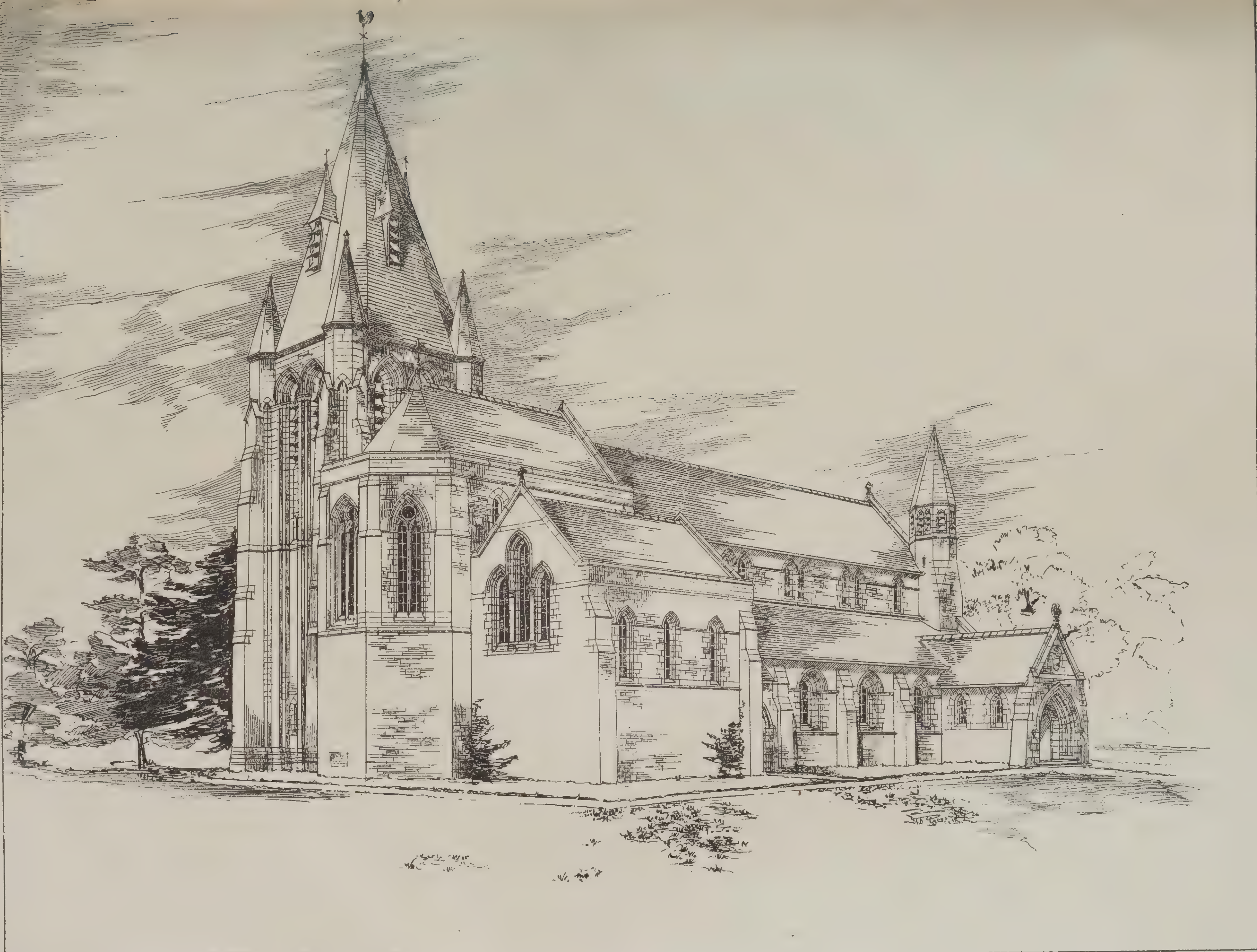
ST. JOHN'S PARK MANSIONS,
PEMBERTON GARDENS, N.
SIDNEY PERKS, Architect.



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DOUGLAS & MINSHULL, ARCHITECTS

CHURCH OF St. ETHELWOLD, SHOTTON-IN-HAWARDEN, NORTH WALES.

The Architect.

THE WEEK.

A report on the various reparations of St. Patrick's Cathedral, Dublin, by Sir Thomas Drew, P.R.H.A., who has charge of the building, has been printed. In 1864 the late Sir Benjamin Lee-Guinness undertook the restoration of the building. Unfortunately the masons considered that the stone which was employed by the Mediæval builders was derived from Normandy. A comparison of the ancient stone with the modern imported stone from Caen, in Normandy, shows a wide difference in character and quality. The fine and durable stone which the Mediæval English builders used was derived from the great Oolite quarries of Somerset. However (as in the neighbouring Christchurch restoration in 1872), soft Caen stone was adopted in the restoration, and has proved a disastrous failure. When Dr. Jellett came into his Deanery in 1892, the spectacle which confronted him was the exterior of the east end of his cathedral in deplorable dilapidation. By 1898 large pieces of rotten stone, detached by rain and frost, frequently fell around the eastern group of buildings. About Christmas time of 1898 alarming fissures began to develop in the east end of the choir, and the cathedral architect had to report that the extreme limit had been reached when the warnings of serious catastrophe could be no longer disregarded. He was permitted to apply to Messrs. Thompson & Sons, of Peterborough. Some of their most skilful foremen and resourceful workmen were at once detached from other works. The cost of the timely work of shoring up and staying the impending ruin amounted to over 1,000*l*. There was for a time a prospect for the architect and cathedral authorities of standing by a cathedral stayed and propped on crutches with a forest of massive balks of timbers for years to come, but Lord Iveagh intervened with offer of his kindly help in placing further subscriptions from time to time to the cathedral account. In that way have the Dean and Chapter been enabled to proceed from step to step in restoration of the ruinous exterior, the cost up to the present being no less than 12,000*l*. Among the new works is an organ aisle measuring 41 feet by 13 feet. It stands over three bays of the north chancel aisle and abuts on the north transept. As that part of the cathedral dates from 1865, no architectural feature externally of ancient design is affected by the consistent addition, except in the removal of the two flying arches now seen abutting on the choir wall.

The combination among American steel producers at first sounds as a terrible misfortune for one class of metalworkers in this country. To have unlimited power at command and not to use it would denote a lack of that shrewdness which is a characteristic of Americans. But in manufactures there is a regulating rule which it is hard to define. The new combination, having no fear of competition, will endeavour to obtain higher prices for their steel, and if so there will be a chance for English material. Besides, efforts are sure to be made in America to start new steel companies. In fact the endurance of similar "cornering" is never continuous. It is possible that besides varieties of the material such as plates, angles and joists, columns and girders will also be produced. Recent results have, however, demonstrated that for the execution of such work English engineers can, if they wish, resist American attempts to gain a footing in England. Under the new and more stimulating conditions the hold on the English market is not likely to be relaxed. In any case, we may expect to see a more extended use of metallic construction in this country.

The decision that was given in the Irish Court of Appeal on Monday will be unsatisfactory to county surveyors and assistant-surveyors throughout Ireland. The effect of it will be to deprive those officials of all hope of receiving a fair reward for their services. The litigation in the test case, The King (Wexford County Council) *v.* Local Government Board, has occupied their Lordships for several days. On August 15 last a conditional order for *certiorari* was obtained, with the object of quashing a sealed order of the Local Government Board, dated June 26, by which the salary of Mr. Henry Webster, the county surveyor of Wexford, was increased from 600*l*. to 800*l*. a year, the increase to date from April, 1899. The salary of one of the assistant-surveyors was also raised from 80*l*. to 150*l*. a year. The King's Bench Division subsequently discharged the conditional order, and the County Council therefore appealed. By the Local Government Act it was arranged that officers such as surveyors, who were transferred to the new County Councils, were to hold their appointments under the same conditions as formerly; but the Local Government Board, if an officer's duties were increased or diminished, could determine whether his salary was to be increased or diminished in proportion. The Board, realising that the remuneration was generally inadequate, and that the officers would have to perform additional duties under the new Act, issued a circular to the different Councils, in which particulars about salaries and duties was asked for, and a scale was fixed for the increase of salaries. It was contended that if the Local Government Board were aware of an increase of duties they could order an increase of remuneration. But the Act did not give them retrospective powers. It was maintained that in the county of Wexford there was no increase of duties, and the Court of Appeal was on Monday unanimous in deciding that the Local Government Board could have no jurisdiction in cases where a surveyor or assistant-surveyor continued to carry out the same duties. An order was therefore made to reverse the decision of the King's Bench Division. It is well known that Government departments are not disposed to increase the salaries of officers who are only indirectly connected with a particular department. County surveyors are municipal rather than Government officers. There must have been consequently flagrant injustice to cause the Irish Local Government Board to depart from tradition and to raise the surveyors' salaries. The real question at issue probably was whether a county council was not stronger than a Government office, and the decision of the Court of Appeal is in the affirmative. The extraordinary spectacle is presented of a Government office being declared to be in error, and doubtless an effort will be made to obtain costs from it. Assistant-surveyors will henceforth have to be contented with a salary of 80*l*. a year for superintending works on, it may be, 500 miles of roads, besides other responsible duties.

In one of the rooms of the Fine Art Society there is an exhibition of paintings and etchings by Mr. Mortimer Menpes, the result of a visit to South Africa in the capacity of war correspondent. Some of them have, therefore, already been enjoyed by the public, but as so many are new the interest is in nowise diminished. The only matter for regret is that the artist confined himself so much to representing particular personages. Out of about sixty portraits over half are a repetition of a few individuals. However much we admire Lord Roberts, Sir Alfred Milner and Mr. Cecil Rhodes, one would sometimes prefer to see likenesses of other notables of less account. Mr. Menpes has been most happy with the last-named sitter, and perhaps least with Lord Roberts. The subjects have been shown amidst many kinds of surprising surroundings. We are shown Lieutenant-General Pole-Carew in his rose garden, Lord Roberts and the Duke of Marlborough in a drawing-room, &c. The impression is received that Mr. Menpes, having singled out his men, dogged their footsteps at every turn pencil and book in hand, and caught them unawares. There is a naturalness in the figures which is unlike posing in a studio. Mr. Menpes as an artist strives to show only the bright side of things, and war as depicted by him consequently strikes one as being less cruel than it must be in reality. It would be an interesting contrast if a few of M. Vasili Vereschtschagin's awe-inspiring pictures of battlefields were hung in an adjoining room, to suggest the difference between British and Russian methods.

THE BUILDING INDUSTRY.

We suppose the oldest man of the world would be willing to acknowledge that never during his recollection was the air in England so charged with reform as it is at present. Everything now seems to be out of joint. In the House of Commons the present session would appear to be destined to be memorable for the number of inquiries which will be instituted. Smaller assemblies throughout the country seem to follow the lead set by Parliament, and all holders of honorary offices are sure to find a large amount of their time employed in scrutinising the actions of those to whom salaries are paid.

It would be strange if building should escape from the inquisitorial spirit. Every man has, according to Mr. Ruskin, personal interest in architecture at some time of his life, and when an industry is so necessary there must be a large number of people who believe they are made to suffer from its defects. The paper which Mr. Thomas Blashill read before the Surveyors' Institution on Monday would, we are sure, be no less acceptable by a non-professional audience in any part of the country. There would be no difficulty in discovering that he possesses many qualities which are essential for a censor of the practice of building as it is now conducted. He has had experience, as a professional architect, of clients, builders and workmen. As superintending architect of the London County Council he was obliged to take an official view of modern building in all its varieties and on an unlimited scale. He is now enabled to enjoy the philosophic view, and to look on builders, building materials, designers and clients as if they were all abstractions, or like an old military commander who can treat campaigns and battles as no more than mathematical problems.

From his peculiar position we can understand why, instead of being led away by individual interests to concentrate his attention on the architect or the builder or the workman, Mr. Blashill should open his address by announcing that they were all parts of a compound industry, that the architect, the mason and the carpenter could not stand alone like the sculptor and the coppersmith, but have all to co-operate in order to arrive at the end proposed, *i.e.* the erection of a building. Any member of the compound body who is regardless of the other members was acting stupidly, and the work must be injuriously affected in consequence. As philosophers of the old school considered the circle was the most perfect of forms, and the symbol of the snake holding its tail in its mouth was a type of wisdom in discourse, Mr. Blashill wound up his paper by a return to the opening, and suggested that all who are destined to follow the various branches of the building industry should be taught in the same school and go through the same exercises. Some would drop out earlier than others, but from the manner of training they would all come to understand one another, and if the humblest student should happen to come forth distinguished for his knowledge of architecture, he would receive the heartiest of welcomes from those who were the architects of the time. Theoretically all this may be true, but it does not find confirmation in the history of architecture, and it is to be doubted whether such ideal justice could ever be arrived at. Nature does not make circles which are mathematically correct, and it is for some wise reason, we suppose, she makes it necessary that every man must be combative if he would hold a prominent position.

Mr. Blashill as a philosopher considers that the client who pays for all the operations of the co operative industry is too often misunderstood, and rarely obtains the consideration he deserves. It cannot be said, however, that architects in acting independently of him treat him any worse than he is treated by the members of other learned professions. All of us know how helpless we become in the hands of our doctors. Half a dozen physicians will take half a dozen views at least of the course to which we are to be subjected, and two or more in concert or consultation do not always secure unanimity. Lawyers will not see cases with their clients' eyes; and as for divines, the individual in a congregation has no voice in what he is to be taught, and he has to submit to receiving advice on subjects with which he has slight concern. Now an architect is at least willing to listen to suggestions from a client, but it is a remarkable fact that clients rarely are competent to describe their own requirements. Although for half a century drawing has been taught in all kinds of schools, the majority of clients are incompetent to make a simple diagram which will be suggestive of the relative positions of the rooms they desire to possess and their general dimensions. Mr. Browne may say he would like to have a house somewhat resembling Mr. Jones's, and if Mr. Jones is interviewed he is likely to hold, especially if demands on account of extras have not passed out of his memory, that his house is uncomfortable and incommodious, especially if compared with Robinson's, a man who was wise, for he agreed with his builder for a lump sum, and dispensed with the luxury of an architect. The class of clients that is made up of several units, like public bodies, will be found to be still less disposed to be precise about their requirements. It is therefore not extraordinary that an architect will endeavour to produce the building which he believes most suitable, and to trust to fate for its approval.

Most English clients are, however, eager to possess, although they may not have the courage to acknowledge it, a striking exterior for their buildings. When Jacobean forms were introduced it was said of the fine old Tudor gentleman that "his great houses bear in their front more durance than state, unless this add the greater state to them, that they promise to outlast much of our new fantastical building." But in our time the fantastic is an element which is not despised, especially in commercial buildings. In a dwelling-house which attracts the eyes of passers-by through its novelty and, as it were, its self-assertion, interior defects will often be readily condoned for the sake of the exterior. It is no wonder therefore that, knowing the extent to which so many clients prefer outside to inside, the designing of a façade often receives more attention than general planning.

Next we come to the contractor. Mr. Blashill regretted that such a large number of people, either as private individuals or as public bodies, were willing to take every advantage of a contractor, and expected the architect to become their auxiliary. He recommended that only builders of good reputation should be permitted to send in tenders, for he believed it was practically impossible to convince a committee on the clearest evidence of the ineligibility of a contractor if his tender were the lowest. Many public bodies and individuals, who assume they are gifted with extraordinary shrewdness, are of opinion that when an architect recommends a restriction to one class of builders he is simply seeking his own convenience. The architect is supposed to insure the production of the best possible work, regardless of the low price to be paid for it. There is also a belief that, no matter how moderate may be his tender, a builder is sure to make profit out of his contract. It is true he may fail before or soon after the completion of the work, and his creditors will then suffer, but losses to unknown suppliers of materials do not give rise to much remorse among clients.

Any description of the modern practice of building in this country would be incomplete if it did not take into account the sub-contractor as well as the contractor. Sub-contractor is under the circumstances a phrase not sufficiently expressive. There are still men who continue to undertake excavation, brickwork, masonry, plastering, or slating as in former times. But their employment is generally an affair of the contractor's; they simply execute work which in many cases he could be compelled to have performed by his own men. The most important class of sub-contractors at the present time are really specialists. They manufacture appliances or execute work which the ordinary contractor is incompetent to execute. An article lately appeared in this journal in which the following remarks are to be found:—"Let pessimists say what they will in depreciation of the nineteenth century, it cannot be doubted that an incredible amount of inventiveness has been expended in the service of architects and builders. In no other business are there more auxiliaries or more loyalty shown in doing excellent work without exacting any public acknowledgment of it. The sub-contractors, who are masters of specialties employed in connection with every important building, form a most important body, and they deserve more appreciation than they commonly receive from those who have the benefit of their skill and experience." Mr. Blashill does not approve of the system of stipulating for the employment of the productions of these specialists, and he would substitute the entrusting of the power to the contractor of making, buying or fixing similar productions. One of his reasons is that with specialties there is a possibility of receiving illicit commissions by those who order the goods. Mr. Blashill, we think, would have exhibited more *esprit de corps* if he had refrained from the utterance of that suggestion, and probably it will be withdrawn if the paper should ever be read before any society of architects.

Mr. Blashill believes the English builder is more slow and less inventive than the American. He expresses his admiration for the system which was exemplified in a New York building of which there was a model at the Paris Exhibition. The ordinary storeys, it appears, arose at the rate of two a week, and the artistic storeys at one a week. But it should be remembered that the conditions of business in England rarely demand so much expeditious magic in order that exhalations should ascend. It cannot be regarded as the most economical mode of construction, and the profits derived by the earlier occupation of a building during a few weeks do not compensate for the extra cost of the works.

As becomes an ex-officer of the London County Council, Mr. Blashill displays much sympathy for the building operative, and he describes trade unions as if they were the representatives of Providence. The principle of a fair day's wage for a fair day's work he believes to be based upon a fallacy, for by what standard is a fair day's work to be reckoned? He approves, too, of the Chicago workman's method of agreeing on the quantity of work that was to be done in seven hours, and then completing it in five hours while he charged for the seven. The English architect, however, represents a more old-fashioned system of ethics. He believes that he is for the time being the guardian of his client's purse, and he endeavours that in all the measurements fives shall not be charged as sevens. It may be argued that the workman's labour should correspond with what is practised in public offices. But that way of executing contracts was not looked on with favour when the majority of architects were taught their profession, and they consider they have no right to foster innovations which have little advantage for the workman and none for clients. At one time we question if Mr. Blashill would have advocated the theories which he now expresses, and we can only account for the change by his experience as a municipal officer. The enfranchised building workman is a very different individual to his predecessor, who thought more of his work and his share in the erection of a building than of the patronage which he was able to exercise by aiding in the election of people who professed to be his representatives.

The paper will probably cause many of Mr. Blashill's hearers to speculate about the future of building industry in this country. It cannot be expected that youths who have received instruction in technical schools will be satisfied to devote their lives to one branch of the trade. Their ambition will incite them to more highly paid occupations than bricklaying or carpentry, although they may not have to toil for more than five hours daily. Is there scope for their exertions unless the industry is revolutionised? If the American builder is now said to be a constructional engineer, we suppose in course of time his English brother will endeavour to surpass him and make the architect's office no more than honorary. On the other hand, when we find masonry is supplanted by terra-cotta work and rolled joists and concrete have become substitutes for timber framing and flooring as well as brickwork, we may assume that similar changes will follow in other sections of the building industry.

Mr. Baden Henry Baden-Powell has bequeathed to the University of Oxford, for the purpose of the Indian Institute at Oxford, all his books and papers relating to India and to land tenure in India, including his large illustrated books on Indian art, the Jeypore "Architectural and Indian Art," and local photographs in books, and such, if any, of his Indian sketches and such drawings as the committee or governing body of the Institute may within six months select as suitable to hang or keep in the hall of the Institute.

ARCHÆOLOGY AND LAW.

ONE of the traditions about Solon which Plato has preserved in the "Timæus" relates to a visit of the legislator to Sais, the capital of the Delta. To an Athenian the city was most interesting, for not only were the people his friends, but it was supposed to be under the protection of Naithe, who was no other than the Greek Athené or Minerva. Solon in his conversations with the priests discovered that his countrymen and himself were, if compared with them, without any knowledge of antiquity. He tried to enter into a comparison between the myths of Sais and those of Athens, when one of the priests exclaimed, "O Solon, Solon, you Greeks are always children, nor is there any such thing as an ancient Grecian among you." In reply to a request by the visitor for explanation, the priest said, "All your souls are juvenile, neither containing any ancient opinion derived from remote tradition nor any discipline hoary from its existence in former periods of time."

It was complimentary to a Greek to suggest that he enjoyed perennial boyishness, and the people were often as light-hearted as if they were unable to look before or after, and could only conclude that they were concerned with the present and the enjoyment of every moment. Among the Greeks there was, however, a recognition of a very respectable antiquity; but chronology was in a most marvellous way mixed up with poetry. It was difficult to decide between gods and heroes or between heroes and ancestors. On that account it has been supposed the Greeks bore a resemblance to the Chinese through their ancestor-worship. In fact, the Greeks demanded, as Grote says, an unbroken line of filiation between themselves and the gods, and "the eponymous personage from whom the community derive their name is sometimes the begotten son of a local god, sometimes an autochthonous man sprung from the earth, which is indeed itself divinised."

Interesting as were the myths, the evidence on which they rested would not have satisfied an English special juror. A Greek was so accustomed to see representations in painting and sculpture of Amazons, to take one example, it was not until a comparatively late period that he had the least misgiving about the invasion of Attica by an army of women-warriors. Romance and history, fable and fact, were so intermingled, the most acute of the people could not separate them. With the Egyptians, on the contrary, an endeavour was made to have at least a semblance of evidence. As the Egyptian priest said to Solon, the Greeks with other peoples had neglected for ages to keep records of transactions; whilst in Sais, whatever occurred that was not commonplace was written down and was to be found in the treasury of the temples.

The remarkable case, Merttens *v.* Hill, which has occupied Mr. Justice Cozens Hardy during several days, shows that although in this country people have more acquaintance with Greek customs and manners than with those of the Egyptians, our law would appear to have taken a hint from Sais rather than from the Athenian Areopagus. The end to be attained in the case just mentioned was insignificant, if judged by a pounds, shillings and pence test, and to the ordinary layman it was of less consequence than the suits for trespass between Lawrance Boythorn and Sir Leicester Dedlock, which the latter in his illness would not allow to come to an end, and a flagrant trespass had to be committed in order to restore the baronet's equanimity. For the material question at issue in Merttens *v.* Hill was whether the defendant was bound to pay the plaintiff as lord of the manor a fine of a shilling in the pound on purchasing 22 acres of ground at a place called Grimston. And yet the case is one that does credit to English law, and those who have had the privilege to take part in it are envied by many lawyers.

The interest in the suit arises from the circumstance that the land in question was a possession not only of William the Conqueror, but of Edward the Confessor. Their arrangements with their tenants were in reality the foundation on which the case stood. The lands at a subsequent period formed part of the estate of the great Order of the Templars, who in the beginning of the fourteenth century were, on account of their wealth, charged with many crimes by those who hoped to be gainers by their removal, and in various countries of Europe the knights were condemned to the flames. They are recalled by the name of the manor, Temple Rothley, in the county of Leicester.

In "Domesday" Grimston, or Grimstone, is mentioned as a *wongs* or part of the ancient manor of Rothley. From the fact of being tenants to the king the occupiers were bound to perform certain services of a military character, and possessed in return certain privileges. Their position was described by the Real Property Commissioners. It was pointed out in the Report that there was a difference between copyholders and tenants in ancient demesne. The latter "were forbidden to bring or defend any real action touching their tenements except in the lord's Court. In ancient demesne there are no subdivided or conflicting interests in the soil. The timber and minerals belong to the tenant, and the rents, fines and services due to the lord are certain." On that evidence Mr. Justice Cozens-Hardy decided that the freehold was in the tenant and not in the lord. In 1309 an Act is found in the Parliament Roll, though not on the statute book, which enacts "that from henceforth none should demand or take any fine from freemen for entering upon the lands and tenements which are of their fee, so always that by some feoffment they be not losers of their services, nor that their services be denied." There is also a note at the foot of a Latin survey of the manor dating 1360, which is exceptionally interesting in an archæological sense, to the effect that if any alienation be made to a stranger of any lands or tenements in Rothley without the lord's authority the fine shall be arbitrable. It is certain that surveyors were called in to settle such affairs, for in 1276 an Act was passed in which subjects that could come under a surveyor's inquiry were described, and they comprised buildings, demesnes, foreign pasture, parks, demesne woods, foreign woods, herbage and pannage (right to feed pigs in a forest), mills, fishing, freeholders, customary tenants, cottages and curtilages, perquisites of courts, patronages, liberties, customs, services, &c. All these demonstrate that the thirteenth-century surveyor required to be a diplomatist and judge as well as a measurer and valuer.

After the fall of the Templars the Crown appears to have again obtained possession of the manor of Rothley and Grimston. Henry VIII. respected the old conditions of tenure, and we meet with references to feudal arrangements in the grants of Edward VI., Queen Elizabeth and their successors. As late as 1765 Thomas Babington (of whom plaintiff was representative) was lord of the manor and soke of Rothley, to which Grimston or a portion of it was attached.

The defendant could not go further back for his title than 1820, when the land he purchased in Grimston was made the subject of a levy. If it were then "ancient demesne" it was claimed to have become, through the levy, "frank fee." A few years afterwards the levy was declared void in the Court of Common Pleas on the ground that the lands in question were only pleadable in the Manor Court by a writ of "Right Close" and not elsewhere. It is, therefore, apparent that some eighty years ago the peculiarity of an ancient tenure caused the judges to differ about its position in modern law, or, in other words, about the interpretation of ancient phrases. What added to the difficulty in the trial just ended is that anciently the lord of the manor was empowered to enforce payment of a fine from a foreigner, while it was disputed whether the defendant could be termed a foreigner, as he was born within the manor and soke. But apart from that question, it was also doubtful whether Grimston could be considered as being in the same position as Rothley with regard to feudal services. In 1245 there was a compromise effected on the subject with the Master of the Order of Templars, and it was confirmed by the justices in 1285. It was claimed that in 1816 Grimston became frank fee. But Mr. Justice Cozens-Hardy held that frank fee was obtained as far back as 1245, or nearly six centuries earlier. Judgment was accordingly given for the defendant with costs, and the fine of a shilling in the pound on the purchase-money of about 22 acres will not have to be paid.

There is no other country in the world in which a similar case could be tried. Invasions, changes of dynasties, codes and other experiments in legislation have elsewhere completely altered the limits of precedents. If one will read, writes Montesquieu, the admirable work of Tacitus upon the manners of the ancient Germans, one will see that it is from them the English have drawn their ideas of government and law. There is more or less exaggeration, perhaps, in the statement, but it emphasises the essential characteristics of English law which a philosopher-legist must perceive when he takes a hasty view of the laws of various nations, for Montesquieu compared himself to the antiquary who surveyed Egypt by a glance at the Pyramids. To a foreign lawyer, when he hears of references to the Norman customs of the eleventh century constantly arising in our law courts, it seems an easy exertion to go further back to the time of Agricola.

When we see the importance of antiquity among our lawyers and judges, it is absurd to look down upon archæological science. It was pardonable for Burns to excite good-humoured ridicule over his friend Captain Grose's auld nick-nackets, rusty airn caps, saut-backets, &c., all of which might have their use in helping to make a past age less dark to modern vision. But the true archæologist does more. He endeavours to understand the life of a former age, for he is aware that its influence has not ceased. To some, antiquity may appear to be an incubus, but so long as English law and English architecture can consider the past as a basis on which to create, we are bound to respect it. Cases like Merttens *v.* Hill will constantly arise, and it is to be devoutly wished that in the future they will be as skilfully treated as the action relating to Rothley and Grimston in Mr. Justice Cozens-Hardy's court, which we have attempted to analyse.

DISCOVERY OF GREEK STATUES.

The Athens correspondent of the *Times* in a letter dated the 12th ult, says:—The strange and indeed sensational discovery of works of ancient art at the bottom of the sea near the island of Cerigo (Cythera) will be regarded as an event of the highest interest by the antiquarian and artistic world. Statues of exquisite beauty belonging to the best period of Greek sculpture have been rescued from the "dark, unfathomed caves" in which they have lain for, perhaps, 2,000 years and restored to the admiring gaze of a distant generation. Many of them, unfortunately, have been much corroded by the salt water; in some cases the mischief is irreparable, in others it is comparatively slight, the portions of the statues embedded in the sand being still in excellent preservation. The discovery is due to a sponge-diver, who, while pursuing his avocation, came upon some bronze objects at a considerable depth; the authorities at Athens were informed, and the investigations which followed, though much hindered by bad weather and insufficient appliances, have already yielded most important results. It is evident that a vessel containing a cargo of the choicest works of art must have foundered on the spot; her captain in all probability had directed his course along the eastern coast-line of the Peloponnesos with the intention of rounding Cape Tænarum and proceeding to Italy, when, "impotenti prensus Ægeo," he was caught by the fierce "bora" and driven in a southerly direction. The statues were, perhaps, intended to grace the triumph of some Roman general or proconsul, or to adorn the villa of some wealthy virtuoso. Some portions of the fittings and furniture of the ship have also been found, as well as various objects used by the sailors.

Many of the statues and fragments have now been brought to Athens, where they have been deposited for the present in the Ministry of Public Instruction. Foremost in interest and beauty is the life-size bronze figure of a youth, apparently Hermes. The head, arms and upper part of the torso are intact and in good preservation; both legs have been found and enough of the remainder of the body to render an almost complete reconstruction of the statue possible. The figure is poised on the left foot, the right being thrown backward; the right arm is extended, the hand apparently grasping a wreath or a sacrificial phial. The general style is distinctly Praxitelean; the head somewhat resembles that of the Hermes at Olympia, but the cast of features is more manly; the dignified and noble expression is softened by a slight melancholy. The statue probably dates from the fourth century B C, and may perhaps be attributed to Lysippos or his school; it would, therefore, be unique as a specimen of the bronze works of this epoch, our knowledge of which has hitherto been derived from copies only. It will, perhaps, be known to posterity as the Hermes of Cythera, or of Anticythera—the spot where it was found being nearer to the smaller island. The ship in which it was conveyed together with the other statues was conceivably that in which the conqueror Sulla deposited many of the great masterpieces of Greek art; the vessel was lost, according to Lucian, somewhere in the neighbourhood of Cape Malea.

Next to the Hermes in importance is a finely-executed statue of a young man bending on his right knee and gazing forward with an expression of keen and concentrated attention. The head, covered with short curly hair, the right arm and leg, and the greater portion of the body are in excellent preservation and display admirable workmanship. The left arm, which is sadly corroded, was evidently raised, while the hand shaded the eyes or, perhaps, was held aloft in anticipation of the onset of an antagonist. This lithe and vigorous figure probably formed part of a group of wrestlers in which the opposing athlete was represented as standing upright and preparing to close with his adversary. The statue displays many of the characteristics of the school of Rhodes: it may be attributed to the earlier portion of the second century B.C.

Among the smaller objects of art now brought to light are two bronze statuettes of athletes which, though slightly corroded, are practically perfect. They both present the muscular type of the school of Argos and Sikyon; the larger of the two, which resembles the idolino of the Uffizi Gallery, may be assigned to the latter half of the fifth century; the smaller, which recalls in some respects the famous doryphoros of Polykleitos, is of later date. A draped figure, also in bronze, belongs to the middle of the fifth century; the feet and the front portion of the head are unfortunately wanting. The head and one arm of a bronze statue of a boxer have been recovered; the truculent and somewhat brutal expression of the face is heightened by the bushy ringlets and beard and the flat, somewhat swollen nose. The forearm and hand are bound with the thongs of the cestus. A number of detached hands and feet have been found, and it is believed that the torsos to which they belong will be discovered in good preservation at a greater depth in the sand. Six marble statues completely corroded by the sea water and the torso of a large marble centaur have been brought to the surface.

The researches have hitherto been carried out by divers from Symi, whose work has been rendered difficult by the great depth of the water. The tackle at their disposal has proved insufficient to raise some of the larger statues, and better appliances must be provided as well as the means of lighting the bottom of the sea. M. Staïs, the Minister of Public Instruction, and M. Kavvadias, the general Ephor of Antiquities, are about to proceed to the spot in order to superintend the operations. Their anxieties will not come to an end with the recovery of the long-lost works of art. The removal of the incrustation from the statues by means of chemicals will require the greatest care and caution, and the piecing of the fragments of the Hermes will be a still more delicate task. The restoration of this superb masterpiece, a task of the utmost responsibility, will no doubt be entrusted to an artist of worldwide reputation.

OLD DURHAM.

On Saturday evening, the 16th ult, the Very Rev. G. W. Kitchin, D D., dean of Durham, delivered a lecture on "Old Durham" to the working men of the county. Referring to the earliest history of Durham, says the *County Advertiser*, the Dean said before A.D. 990 there was hardly a hut or two on the hill-top where the cathedral now stands. Aldhun, bishop of Chester-le-Street, was consecrated in 990, and migrated to Durham in 995. In this year the body of St. Cuthbert was brought here, and at that time there was not even a village on the hill-top. Bishop Aldhun erected the first church in Durham, the building being completed in 999. The old Dun Cow legend belongs to this time. The episcopal castle was begun about this period, and a little town grew round it. The hill was already walled. The present castle is of historic account, William the Conqueror laying the foundations of it in 1072. Cumin was murdered in 1069 in the bishop's house on the Palace Green, and the castle was used to overawe the citizens. William of Carilef, a priest of Bayeux, became bishop of Durham in 1081, and introduced the Benedictines. He was exiled from 1088 to 1091, and then, fired by the grandeur of the Norman churches in his banishment, he hoped on his return to build a new cathedral at Durham. Aldhun's church was levelled first, and then the present church was begun on August 11, 1093. The monks continued to work at their conventual buildings, whilst William of Carilef worked at the church, and by the latter's death in 1096 the eastern part was well advanced. Ralph Flambard, bishop in 1099, finished the walls of the castle and precincts and cleared the Palace Green, sweeping away many mean houses, for it was on the Palace Green that the town of Durham really stood in those days. A moat was dug between the castle and the Palace Green by Bishop Flambard, whilst he also had the credit of building Framwellgate Bridge. The outside town grew very timidly through the twelfth century. The Dean referred to the good St. Godric's connection with Durham. St. Godric, he said, was a pedlar, a shipowner and a steward. He was a wealthy man, but dissatisfied with an unjust world he drifted to Durham, and became sacrist at St. Giles Church, which was dedicated in 1112. He also mentioned the old Norman church of St. Nicholas, probably built before 1150, also St. Oswald's. Hugh Pudsey built Elvet Bridge and established a hamlet in Elvet. Pudsey also built St. Margaret's Church. The church of St. Giles, dedicated in 1112, was built by Flambard. The old hospital at Kepier is also of the same date. Durham was called a borough in very early days, Pudsey, in his first charter, granting privileges to the existing burgesses about 1179. Durham, however, did not become incorporated until 1565, when Bishop Pilkington granted an incorporation charter. Even then, however, there was no mayor, but only aldermen and burgesses "within the city of Durham and Framwellgate," for, the Dean observed, Framwellgate was then outside the city. In 1602 Bishop Matthew granted a new charter for a mayor, twelve aldermen and twenty-four commonalty. The council were chosen, two each from the twelve incorporated companies. The Dean enumerated the crosses in and about Durham city. There was the base of one still standing at the junction of the South Road and the cross road from Shincliffe Peth. There were traditions of another cross at the head of Framwellgate, the then North Road. There was Neville's Cross, erected after the battle of Neville's Cross, in the year 1346, whilst there was formerly a cross of St. Giles on the Sunderland Road.

In regard to the building of the cathedral and castle they must look back to St. William de Carilef, a foreign priest, consequent on the Norman Conquest. Here they had two guides. First Dr. Greenwell, who at the beginning of his admirable little book writes, "To the memory of William of St Carilef, this attempt to illustrate the noble church, which his genius and piety have bequeathed to us, is dedicated." As to the actual building Carilef brought back ideas from France. He had been a party to a rebellion against William Rufus in 1088, and was forced into exile into Normandy. Hence his inspiration. Anyone who has seen St. George, Boscherville, or any of the older Norman churches will understand this. There is one place near Havre of amazing interest. There is a Roman monument in it, and it is full of most interesting Norman work. We happily have a contemporary history in Symeon of Durham. Symeon lived from (say) 1080 till after 1130, as a Benedictine monk on the spot. He either saw himself or conversed with those who saw what was being done. The monks had built their refectory (of which the undercroft is still standing) between 1088-91—part of it the wine cellar of the Deanery—when Bishop William was an exile in Normandy. When he returned Carilef pulled down Aldhun's church, the new Normans not tolerating the old Saxon art, and on August 11, in the thirteenth year of William's episcopate, the work was begun. On that day the bishop and the next to him in command in the church, Turgot (prior), with the other brethren, laid the first foundation-stones. They had been digging out the foundation lines since July 29. In consequence of his anxiety not to be buried in his own church Carilef was buried in the chapter-house. Carile died at Windsor in 1096, and was brought home for burial. He rested in St Michael's Church, and then was buried in the old chapter-house, for the later one was completed only by Geoffrey Rufus (1133-40) about 1135. What did St. Carilef achieve in those three years? He began at the eastern apse, and went (so far as the walls at any rate are concerned) as far as the first compartment (two bays) of the nave, also the east side of the two transepts and the substructure of all the three apses. The Dean also attributed to Carilef the boldness of the groined roof. How did they know this? First, by the structure itself prepared for a groined heavy roof; secondly, by an indulgence of 1235, which spoke of the vaulted roof over St. Cuthbert's remains as quite ruinous. This indulgence was quite fifty years earlier than the present groined roof, showing that the old groined roof was then existing. The Dean next referred to the curious story about the removal of the body of St. Cuthbert in 1104, out of the wooden chapel built for it when Carilef pulled down the old church. On August 29, 1104, the body was translated, the timbering of the great vault being not yet removed. All was carried through safely. Probably the timbers were left till the groined roof had settled. But in the night after the Prior heard a mighty crash, and ran thither, "not caring at all about the timber, but anxious for the shrine and pavement." He found the whole of the timber had fallen and had done no harm to the shrine and pavement. So they cleared the timbers away. And the east end of the church so roofed in was precarious always, and a very bold attempt. Still it lasted from 1104-1250. This feature was swept away when the later style came in. The Dean next directed attention to the change in Norman architecture. Winchester Cathedral was Norman without a single bit of ornament. When Durham Cathedral was begun the taste was the same, and in this earlier manner they built the one compartment referred to (two bays) of the nave. They would notice the buttress-like form of this work to hold up the first central tower. After Carilef's death they did not know how long the delay lasted. Only a few years surely. Four and a half years after Carilef's death Ralph Flambard was made Bishop of Durham by William Rufus in 1099. He had been the king's chaplain and his chancellor or procurator for the whole realm. Flambard was described as very active and needlessly harsh, and when William Rufus would not put him down there was a great plot to carry him off and murder him. A boat on the Thames was procured, and Gerald, one of his men, came to Flambard with a story of the illness of the Bishop of London, who was said to be dying in the Tower. They got Flambard aboard the boat, but instead of rowing him to the bishop they took him down stream to a seagoing ship and forced him aboard. Becoming awake to the trap, Flambard threw his signet ring and his notary's seal into the Thames. The ship hoisted sail and ran out to sea. Two sons of Belial were selected either to throw him into the sea or to club him. They were to have Flambard's fine clothes for their reward. But the rascals quarrelled over the robes, and so made no haste to kill him. A big storm arose, the hands aboard were in the utmost peril, and the ship was driven back into the Thames, and so Flambard landed unhurt. He was consecrated in St. Paul's by Thomas, Archbishop of York. In 1100, after the death of William Rufus, he was arrested by Henry I. and lodged in the Tower of London. After about six months' imprisonment Flambard escaped. He had been the king's proctor and justiciary, and had become hated for a thousand cruelties terrible to the people. He grew very wealthy, and so won his bishopric. But when William Rufus died, and he was thrown into prison in the Tower of London, he managed cleverly to escape by the aid of friends. For Ralph was clever and eloquent, and though cruel also liberal of hand and merry. He had many friends. Daily he received 2*s.* for his food, and with this he made good cheer for the soldiers in charge of him. One day there was sent in a rope in a flagon, and a second flagon full of strong wine. With this he dosed his guards till they were fuddled. Then when they went off into a drunken sleep he fastened his rope to the mullion of the window of his room, and with his pastoral staff in hand he slipped down the rope. But he had no gloves, and his hand was cut to the bone. At the foot of the tower his faithful friends were awaiting him with fresh horses, and with these he escaped at a gallop and crossed over to Normandy to Duke Robert, and urged him to attack Henry. However, in the end, after the reconciliation, Flambard got back to England, apparently pardoned. When he reached Durham he found that the monks had carried on Carilef's work, and had built as far as to the nave. Flambard's dates were 1099-1128. The Dean then referred to the changes brought about by the death of King Henry and the increasing powers of the Bishops of Durham in the north. He also expressed the opinion that the Norman was far behind the Anglo-Saxon in art. Continuing, the Dean said that sometime between the death of Carilef and Flambard's work the zigzag or dog tooth, or other such ornament, came in. He called attention to how the first work, including the massive central tower, buttressed itself. Then, when continued under Flambard, the dog tooth was added. There was, so far as he could see, not much difference in the jointing of the stones. In Winchester there was a vast difference—the inch broad joints in the oldest Norman, the fine joints of the later. This was a mere detail of structure, only to be given on the spot. The circular piers, with their deep grooving, were possibly new work of the time. One found examples still in Dunfermline, and in the ruined church of Holy Island. The Lindisfarne church was a miniature copy of Durham, probably by the same hands. Flambard had the instincts of a Norman noble. He made the castle and surroundings very strong. There was the growing cathedral to the south, the new wall from chancel to castle on the east, on the west a cliff and wall, to the north the castle. Lastly, Flambard built Framwellgate Bridge. Some said this was a corruption of Flambard's Gate. There used to be a tower and a gateway at the near end When Flambard, whose ring was in the chapter library, died in 1128, the walls of the church were up to the roof plate all round, including the western towers. During the vacancy, which lasted five years, the monks, they were told, completed the work; that must have been the roof. They now came to the days of Flambard's successor, Galfridus the Red. The apse roof lasted, though crazy, for about 125 years, all through this time. The south transept and the nave were at this time vaulted, 1128-33. Under Geoffrey the Red, 1133-40, the chapter-house was finished by the monks. And at this time the fine north and south doors were made. The south-east doorway was rather later, probably 1180, in Pudsey's days. These doors should be compared with those of Iffley Church, Oxford, specially because of the centaur. The Church and its bishops were strongly pro-Stephen people, and the centaur was King Stephen's cognisance. The Dean interested his hearers with a curious story of political struggle during those turbulent times, the chief figures in which were Bishop William de St. Barbara and Cumin. William de St. Barbara was succeeded by Hugh Pudsey, the great building bishop. Pudsey's first scheme was to build a lady chapel to the east of the great apse. Many persons were admitted as master masons. There were as many fresh starts as there were masters. Much money had been wasted, and walls of some height built up. Then cracks and chinks showed, "and a clear sign was given that this work was not pleasing to God and His servant Cuthbert." So he turned to the west and built the Galilee.

GLASGOW ARCHÆOLOGICAL SOCIETY.

THE monthly meeting of the Glasgow Archæological Society was held in the hall, 207 Bath Street, Professor Fergusson in the chair.

After referring in suitable terms to the nation's recent bereavement, the Chairman said the council had recommended that the Society should pass a resolution "deprecating the adoption of any design for the re-erection of the Royal Infirmary (the present elevation of which is dignified and suitable to the locality) which would in any degree tend to dwarf the proportions of Glasgow Cathedral." This was agreed to unanimously.

Mr. Robert Brydall read a paper on the "Carved Stones at Luss." In speaking of the early church at Luss, Mr. Brydall made a brief reference to St. Kessog, its patron saint, who lived in the sixth century, and whose name had sometimes been associated with an effigy in the chapel at Rossdhu. The effigy, however, did not date earlier than the thirteenth century. The hog-backed stone in the churchyard was described, and briefly compared with others. Of the three types this was the latest, as evidenced by the decorations of interlaced semicircular arches and pilasters. Assuming that this form of decoration was borrowed from or succeeded to the Norman church architecture in Scotland, the stone might belong to the twelfth or the thirteenth century. While studying this stone Mr. Brydall said he discovered an interesting slab, the design on which was quite obscured by moss and lichen. It bears an incised cross with four circular hollows at the top, steps at the foot and a claymore 4 feet 4 inches in length, with a rope-moulded edge. It was compared with other stones bearing stepped crosses in England and in Scotland, its probable date being the fourteenth century, like one at Kildrummie. The paper, which was fully illustrated by measured and carefully-detailed drawings, concluded with a notice of a stone sarcophagus in the same place, which is carved with a chalice on the one side, an open book on the other, and a Latin cross at each end.

At the close Mr. Brydall was awarded a hearty vote of thanks for his paper.

Mr. Wm. George Black read a paper on "David Dale's House in Charlotte Street." He said that David Dale, pre-eminently the great Glasgow citizen of the eighteenth century, was forty-one years of age when he built his mansion in Charlotte Street. He was born in 1739, at Stewarton, in Ayrshire, where his father was a small shopkeeper He was a herd laddie for a time, but was soon sent to learn weaving in Paisley. On the expiry of his apprenticeship he is said to have wrought as a journeyman in Hamilton, and about 1763 became a clerk in a drapery establishment in Glasgow. By-and-by he started business on his own account as a dealer in yarns in a small shop in a building known as Hopkirk's Lands, a few doors north of the Cross in High Street. His rent was 5*l.* To save every penny, however, he sublet half of the shop to a watchmaker, who paid 2*l.* 10*s.* He remained in the same office till 1798, when he removed to St. Andrew's Square, which was then newly built. In those thirty-five years the Stewarton lad had become a very prosperous merchant. He imported French and Flemish yarns, and made much money. He founded in 1783, with Richard Arkwright, the New Lanark Mills, and at Barrowfield he established the first turkey-red work in Scotland. In 1783, too, he evicted his watchmaker tenant to make room for the first branch of the Royal Bank in Glasgow, for which he acted as agent. He founded the Chamber of Commerce, and was twice a magistrate of Glasgow. In 1782 and 1799, when meal rose to 21*s.* 4*d.* a boll, he chartered ships and imported great quantities of grain to be sold cheap to the poor people. His business went always hand in hand with devoted care for the prosperity of those he employed. The ground on which Charlotte Street now stands was in the twelfth century part of the lands called Conclud, a possession of the See of Glasgow. A portion of Conclud appears to have been assigned to the rector of Eaglesham, when, about 1430, his church became a prebend for a canon of Glasgow Cathedral, and it was thenceforward known as Eaglesham's Croft. Mediæval Scottish ecclesiastics were much disposed to regard church property as their own, and the rectors of Eaglesham seemed to have leased or sold portions of the property. At all events, in 1496 Martin Wan, chancellor of the cathedral, owned some of the croft, for an acre of it formed part of the endowment provided by him for the chaplaincy of the altar of St. James in the cathedral, and other portions were included in the endowment of the collegiate church of St. Mary and St. Anne (the Tron). Merkdailly was an orchard in the Eaglesham Croft, lying between house properties known as Ghost Yard and Leper's Land (which fronted the Gallowgate) and the Green. The name seems first to be used in a deed of 1726. Mr. Black traced the history of the property from the Luke family, to whom Merkdailly long belonged, until in 1780 it was acquired by Robert Paterson, David Dale's partner, who laid out a feuing plan, which provided for the erection of what was probably the finest street in Scotland in its day. Neither Great Hamilton Street nor Monteith Row were yet built, and even those later abodes of the Glasgow aristocracy were small and insignificant compared with the stately mansions of Charlotte Street, with their many rooms, their fine architectural details and splendid gardens. Mr. Black read notes by Mr. Alex. N. Paterson, architect, describing Dale's house in detail, and giving his reasons for regarding it (and indeed the whole of Charlotte Street) as the work of Robert Adam, the great Scots architect of the eighteenth century. All around Charlotte Street were nothing but green fields. To the east lay the Green, and to the west only gardens till one reached St. Andrew's Church. Glasgow was still in the main only a straggling long street from the cathedral to East Clyde Street, densely built between Trongate and the Clyde, it is true, but otherwise a small place—yet, as Defoe's description of 1778 says, "one of the cleanliest, most beautiful, and best-built cities in Great Britain." There was no regular police force in Glasgow when Dale built his house, and even ten years later the total cost of the police establishment was 165*l.* There were no public street lamps till the very year when Charlotte Street was laid out, when the magistrates resolved to put up nine on the south of Trongate. In Charlotte Street Dale maintained the hospitality of a great citizen, and in the charming octagonal study with the domed ceiling he no doubt wrote the sermons he addressed for more than a generation to the old Independents, to whom he was a faithful pastor. There he planned the New Lanark Mills with Richard Arkwright; there he thought out his great philosophic schemes, or pondered over the progress of the Royal Bank; there his only son died in 1789 at the age of seven years, and there his daughter was married to Robert Owen, the socialist (a man differing in every respect from Dale, except in philanthropy), in whose arms he died. A great concourse of mourners accompanied Dale's remains to the Ramshorn Churchyard in March, 1806, where he had acquired a grave in the same year, 1780, in which he had bought the site of his mansion. He was widely mourned as the best and most benevolent merchant and most public-spirited citizen of his time. He is said to have given away in his lifetime in charity over 52,000*l.* The house in Charlotte Street was sold by his daughters, and ultimately was acquired by the Glasgow Eye Infirmary in 1852, to whom it still belongs. It is now the only great mansion in Glasgow which remains substantially what it was when it was built.

A hearty vote of thanks was awarded to Mr. Black for his paper, and the meeting adjourned.

THE ARCHÆOLOGICAL ASSOCIATION.

THE seventh meeting of the session was held on the 27th ult. at No. 32 Sackville Street, Piccadilly, W., when Mr W. Ferguson Irvine read an interesting paper, illustrated by lantern slides, on "Some Old Halls in Wirral," the promontory lying between the Mersey and the Dee, and containing the only coast line that Cheshire possesses. Although this tract could never boast of much woodland, it is often called the Forest of Wirral, from the fact that it was afforested soon after the Conquest. The route chosen by the lecturer was along the Mersey shore, then southward to the Dee, skirting the northern side of the estuary. None of these old halls could boast of having been the residence of kings or queens, yet some of them had an interesting history. The old home of the Stanleys was the cradle of a race of men who did much to mould the destinies of England. The architectural period covered was from the beginning of the fourteenth to the middle of the eighteenth century, though a large proportion of the examples illustrated showed distinctive Tudor work, and Dutch influence was noticeable in the curved gables of some of the outbuildings. Among the more noticeable views were Leasowe Castle; Bidstone Hall, dating from the end of the sixteenth century, with a deer-park wall 4 feet thick, probably of the date of an older building, for a tradition exists that it was built when wages were a penny a day; Storeton, with its priest's chamber, and memories of the troublous times of the Popish Plot, and the timbered houses of Hooton, Irby and Plessington. These differed in one respect from timbered houses in other parts of England, in that the back and side walls were of stone. To mark the evil effects of modern restoration views were shown of Irby before and after that process, the beauty and suggestion of strength being entirely lost in the new work. Thurstaston Hall, a comparatively modern building, has a ghost. It is said that a famous portrait-painter, now dead, while executing a commission there, was visited by a little old woman. This, however, did not disturb him, and he made sketches of his visitor. A gentleman who had seen these sketches when visiting another branch of the family recognised the ghostly visitor among the family portraits.

A hearty vote of thanks was awarded to Mr. Irvine for his paper, and the Gower Peninsula was suggested as a suitable subject for similar treatment.

DEVON AND EXETER ARCHITECTURAL SOCIETY.

AT the Exeter Athenæum on the 24th ult. Mr. Charles Cole gave a lecture to the members of the Devon and Exeter Architectural Society, Mr. C. J. Tait, president, being in the chair. The lecturer took his audience from Harwich to the Hook of Holland, thence *via* Rotterdam, Nymingen and Cranigen, the German frontier station, to Cologne and the Rhine Valley to Remagen, describing the scenery and the construction of houses in course of erection, remarking on the low platforms on most of the railway stations and the people crowding across the lines. Slides were shown illustrating the above, as well as an old church with a Romanesque nave and Gothic choir; also a twelfth-century archway, with grotesque sculptures and the new Gothic four-towered Appollinaris Kirche. From Remagen visits were paid to Coblentz and the fortresses of Ehrenbreitstein admired from a distance. The different varieties of steam tugs and passenger steamers were shown, as well as the curious waggons drawn by bullocks and dogs, and at Cologne the well-known Bridge of Boats. Cologne Cathedral was described, as well as many of the chief places of interest in the city. The seven mountains, including the far-famed Drachenfels at Königswinter, were next illustrated, and the ride to the top on donkeys commented on. A trip up the valley of the Ahr, with sketches of the picturesque Bunte Kuh and the villages of Ahrweiler, Walpousheim, Marienthal, Dornan, Reich, Maischloss to Altenahr, were shown on the screen, and the curious wayside shrines described. A visit to Bonn, the birthplace of Beethoven, followed, and excellent views were shown of the house in which the master was born, as well as others of the minster church, with the twelfth-century cloisters and the market-place and fountain column, and the Alte Zoll, with two of the guns captured from the French (1870). The ancient town of Boppard was pictured next, with its handsome Pfarrkirche, old Roman arch and the Carmelite church, in which is a Christian tombstone of the seventh century, and some very fine fifteenth-century carved stalls. Some snapshots in the little village of Erpel, across the Rhine, opposite Remagen, concluded an interesting paper.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

AT a meeting of this Society which was held on the 18th ult, Mr. H. C. Corlette gave a practical and interesting address on "The Planning and Design of Churches." It was illustrated by a number of drawings of characteristic churches, and Mr. Corlette disclaimed any desire to discuss obscure and doubtful points regarding ecclesiastial architecture, or to enter upon a history of church buildings. He rather dealt with those things that affect the plan of a church—the sanctuary, the choir, the nave, the side chapel and the vestries. But first of all he gave hints as to how the site at the architect's disposal should be utilised to the full, how the surroundings should be taken into consideration when determining the design, and insisted that while the personal element should enter the architect's work, it would yet be mere vulgar rudeness to force it unduly upon the notice of all who looked on it.

The Bishop of Rochester consecrated last Saturday the new church of St. Cyprian, Brockley. The church is the result of the labours of the Lewisham Church Extension Association, and has been erected from the designs of the late Sir Arthur Blomfield at a cost of 9,650*l.* It contains seating accommodation for 1,500 people. The land upon which the building stands was given by the Corporation of the City of London.

NOTES AND COMMENTS.

SOME months ago we announced that an action was about to be taken by M. BARTHOLDI, the sculptor, whose figure of *Liberty* dominates the harbour of New York, against the Municipality of Marseilles, to compel them to inscribe his name on the commemorative tablet of the Palais Longchamps as the designer of that remarkable structure. In guide books and in architectural treatises when the group is mentioned the credit is given to the late M. ESPERANDIEU, and his family employed counsel to sustain his rights to the authorship. The hearing of the action began last week. The history, as told by the advocate, went back to 1858, when the Municipal Council decided to erect an immense fountain as a memorial of the completion of a canal. M. BARTHOLDI was at that time a young sculptor who had already obtained the first prize for a fountain at Bordeaux. He was invited to supply a design for the fountain at Marseilles. Instead of a fountain or cascade M. BARTHOLDI proposed that the fountain, a museum and a picture gallery should be constructed in such a way by the introduction of a colonnade and gardens as to form one composition. It was admitted by the then Mayor that M. BARTHOLDI'S designs formed the original conception of the work as it now stands, and that M. ESPERANDIEU was called in to prepare the working drawings which were necessary for the realisation of the project. But in the course of the arrangements M. BARTHOLDI'S share in the work was ignored. In 1863 he brought an action against the Municipality for usurpation of his artistic rights, and for having carried out his scheme and applied an architect's name to it. His claim of 400*l.* for damages was, however, rejected by the Court. The sculptor was then a young man, and as the art he followed is not always profitable he was unable to continue his case by bringing it before a Court of Appeal.

After nearly forty years he has placed his claim on different grounds. He does not ask for damages and he makes no charges against M. ESPERANDIEU. All he seeks is that the inscription which has been placed under the frieze of the central part of the structure should be corrected by the addition of the name of M. BARTHOLDI alongside the architect's. It is remarkable that although the courts in 1863 declined to award the sculptor any damages, ten years afterwards the Conseil d'Etat declared that M. BARTHOLDI was the author and proprietor of the original plan, and awarded him 5,000 francs as compensation. In 1897 the committee of the Society of French Artists considered the claim, and two architects, M. GIRARD and M. LOVIOT, were sent to Marseilles to investigate the circumstances. They ascertained that M. BARTHOLDI'S plans were imposed on M. ESPERANDIEU by the council, whose instructions were to have them carried out, as they expressed the intentions of the Municipality. The architect admitted that he had seen one of the designs, but he knew nothing about the remaining plans, and that one marked No. 4, on which M. BARTHOLDI relied as proof of a resemblance, he had never seen. The advocate on behalf of the family of the architect begged the tribunal to refuse permission to M. BARTHOLDI to inscribe his name on the structure. The advocate for the city based his argument on the former rejection of the claim. But while admitting the value of the services rendered by M. BARTHOLDI, he suggested that a compromise should be adopted. He said that a model of M. BARTHOLDI'S design on a small scale might be placed in the museum, and that it should bear the date on which the design was sent in. Such a concession on the part of the defendants revealed that the Municipality think their case is not a strong one. After hearing the addresses during three days the courts reserved judgment. M. BARTHOLDI will no doubt have to pay heavily for the privilege of having his name in an inscription, but he will have the satisfaction of knowing that he gained a moral victory.

THE committee appointed by the President of the American Institute of Architects, at its last convention in Washington, for presenting to Congress a Bill in favour of a commission for procuring a general plan for the city of Washington, in order to determine the location of public buildings, ordering of landscape and statuary, and the extension of the park system in the district of Columbia, has attained some success. It has been resolved by the Senate and House of Representatives that the President of the United States should be authorised to appoint a commission, consisting of two architects and one landscape architect eminent in their professions, who shall consider the subject of the location and grouping of public buildings and monuments to be erected in the district of Columbia and the development and improvement of the entire park system of the district, and shall report to Congress on the first Monday in December, 1901. In order to carry out the provisions of the resolution the sum of 10,000 dols. is to be appropriated and expended under the direction of the President. The members of the American Institute of Architects throughout the United States are recommended to seek the support of their representatives in order that the Bill may become law.

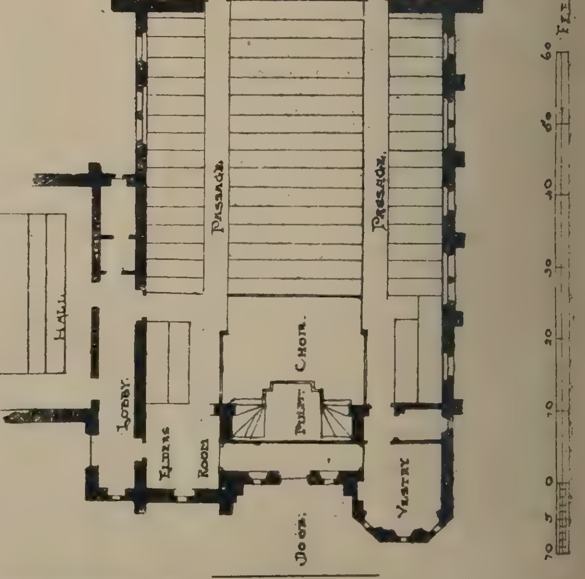
IT would be an interesting statistical inquiry to find out the number of draughtsmen who employ "French curves" without giving thought to their construction. They are admirable for fudging curves bit by bit which are not strictly geometrical, and it is only logical to conclude that the wooden templates are not exact. They may be parts of parabolas, ellipses, conchoids and similar subtle figures, and on that account they have their use in composing figures which cannot well be struck out by any compass arrangement. Professor R. H. SMITH, who is known as a technical teacher, has brought out a series of reversible, homogeneous scaled curved templates which have all the advantages of the ordinary French curves without their indefiniteness. Every inch varies slightly according to determined increases in the length of the radii. This precision will be found of great use, for while compound curves can be formed without difficulty by the templates, the elements of which they are composed can always be ascertained, and the curves can be exactly repeated. Besides, the curves, from having figured proportions, will often enable radii to be ascertained without going through any troublesome geometrical process. The templates are made of cardboard, the gradation and numbers being finely engraved. With ordinary care the templates will be efficient for many years, and cannot fail to be a most useful acquisition for a draughtsman. They have been produced through CASSELL & Co., LIMITED, and the series of twenty-three in a box can be obtained for half a guinea.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: FROM SOUTH-WEST.

THE INSTITUTE, KIRKBY LONSDALE.

NEW CHURCH, BROXBURN, WEST LOTHIAN.



MARLBOROUGH HOTEL, SOUTHWOLD THE LOUNGE. THE STAIRCASE HALL.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute was held on Monday evening last. Mr. William Emerson, president, was in the chair, but owing to severe cold and temporary loss of voice he was unable to deliver his address, which was read by the Secretary.

Presidential Address to Students.

In the few words I have the pleasure to address to my younger friends—I will not say to the students, for in our profession we must all be students to the last days of our lives, but to the junior members of the profession—I will endeavour to lead you to some higher planes of thought in relation to the practice of the art of architecture, rather than to mere practical business elements material to success. I presume, of course, that those of you who have taken the trouble to pass our examinations, and become members of this Institute, have in your minds the idea of practising in the profession. That is to say, I presume your intentions are those of actual performance of an architect's duties in the designing and carrying out of building operations, as opposed to mere theory, the function of the professor. I will therefore consider some few of the things involved in this word practice, the objects, aims and points in connection therewith that should be weighed by one undertaking such responsibilities.

There is a right use or proper employment of architecture. I need hardly point out that building is the most necessary of all sciences; in its objects it subserves the highest and the lowliest wants of humanity. It provides fitting tabernacles for the worship of the Creator, suitable courts for the administration of governments and justice, appropriate palaces for the great and dwellings for the poor; it supplies institutions for the education of all classes in all branches of learning, for the amelioration of the diseased, the poor, and the mentally afflicted, and every kind of commercial establishment; also all other forms of edifices to meet the complex requirements of the world: all these in their aggregation evolve cities, towns and villages. It is a science, but the love of beauty inherent in our natures makes us demand that it be more—that it be an art as well—and this side of it is architecture, and, if good, unites with it all arts. It is therefore of the highest universal importance that those practising it, on whose skill and taste its proper employment is dependent, should be so educated as to plan for use, to design with appropriate beauty, and to construct with scientific knowledge.

To this end I pointed out last year how a thorough education, not only in architecture itself, but on a wide and comprehensive basis, is essential; and this education should not only be gained by study of man's work in the arts and sciences, but also by study of God's work in nature. There should be besides an inquisitive, diligent searching into the reasons of things. The constant use of our faculties in effort with application and judgment is essential, and our highest duty. Idleness will not compass proficiency. As Shakespeare says in "Hamlet":—

> He that made us with such large discourse,
> Looking before and after, gave us not
> That capability and godlike reason
> To rust in us unused.

Architecture should be more than mere building in the best material and manner; the thought and needs of the time must be expressed. It does not suffice to satisfy the one only who has conceived it, but should be capable of pleasing all people in all times. Such a true expression of the architect's mind,

> Like the unchanging sun
> Clears and improves whate'er it shines upon:
> It gilds all objects, but it alters none.

It is the divine element in man materialised in his works: his two natures, the human and the spiritual, are evidenced in his individual conceptions.

In real architecture there must be not merely the individual bias or personality exhibited by one's particular devices, peculiarities or the excellences of one's draughtsmanship, but there must be the expression in all sincerity of spiritual sentiment also. Ralph Waldo Emerson says:—

> The hand that rounded Peter's dome
> And groined the aisles of Christian Rome
> Wrought in a sad sincerity;
> Himself from God he could not free.
> He builded better than he knew,
> The conscious stone to beauty grew.

That is what I take to be the meaning of the proverb, "Ars est celare artem." The artist's material personality or mechanical dexterity should not be predominant so much as the spiritual or divine influence inspiring him. If such be our aim, we shall rightly use any powers of architectural design with which we may be endowed, and be enabled to express the highest mind that is in us by the forms of which draughtsmanship will convey the conventional rendering. This habit of mind, combined with constant practice, care and accuracy, will lead to dexterity of expression of feeling which is essential.

But more than habit of mind for fitting expression in our art is necessary for successful practice. There should be habit of method in study, and attention to apparently trifling details and in business conduct. For as to study it has been well said:—

> If not to some peculiar end designed,
> Study's the specious trifling of the mind.

As to the details and little points that constantly arise, if there is not the methodical habit of carefully looking into them, things seemingly insignificant are easily overlooked, resulting in endless trouble to both the client and the architect. In regard to habits of method in business, I believe that the men with methodical habits usually get through infinitely more work, and do it better and quicker than those lacking in this respect. Methodical habits tend to avoidance of worry, for an architect's life consists, to a large extent, of attention to details of all kinds, which should all have methodical attention in turn. And there is nothing so prejudicial to artistic effort as worry. It should be avoided in every way: a quiet and restful mind is essential to the right exercise of thought and creative power. Moreover, to worry at all is bad, and a correct feeling of what life is and its inseparability from difficulties and troubles, should prevent our giving way to it. A nature so disposed frequently troubles itself over evils that never arise: it shows lack of faith; for

> Deep in man sits fast his fate
> To mould his fortunes, mean or great.

Therefore the architect whose soul is in his art should strive by methodical habits and rules of business to render himself as impervious as possible to worry. Rules no doubt are irksome, and perhaps especially so to the artistic temperament; but without method or rule one is apt to be slovenly. One good rule is to encourage a habit of work every day, and this—however disinclined one may feel, and however little in the humour—with the effort to work the imagination will fire. It may be said the artist cannot work without the inspiration, but he can go on waiting so long for the inspired feeling that it may never come. An architect has this advantage in his life, that effort in the same groove does not recur each day; the variety of the claims upon his attention is one charm of his work. Cultivate earnestly methodical habits. I speak with some reason, for I was never brought up with these habits, and have learned the great necessity of them, particularly to the architect.

The importance in practice of study with thoroughness in both the theoretical and practical sides cannot be too strongly inculcated. There have been articles in some of the papers lately pointing out how, if England is to retain her position in trade and power, the highest intellectual education is necessary in all modern businesses. Not merely smartness or push is wanted, but intellect thoroughly trained, and of a type in which it is stated this country is wofully deficient. It is said that our business men are simply amateurish and incompetent compared with the newer type of highly educated Germans and Americans.

If it be true that in trade this highly trained intellect is so essential, in how much greater degree must it be so for the profession of architecture? For beyond the mere business element, without which, to a certain extent, it is impossible for the architect to practise successfully, there is the necessity for a thorough knowledge of art, with much of many other subjects, such as science, history, &c., combined with the study necessary for the acquirement of that dexterity without which he cannot express his ideas. How superior the educational methods in regard to architecture are in America to those in this country has lately been shown in our Journal in a most able manner by Mr. Arthur Cates.

Therefore a serious reflection for the young student in this country is how very much his education must depend upon himself and his own exertions if his work is to be more than that of an amateur and have vital force, and if he wishes to succeed by his power and competency rather than by smartness and push, or playing off upon the public the eccentricities or fashions of the moment. The days of mere building by architects in this country are, we hope, fast passing away; and this century the public will demand, not only that the architect be versed in all practical details of his calling, but that, by really cultivated taste and intellect, he may build with power, beauty and perfect utilitarianism.

But by those who wish to excel as artists time must be allowed for the study of nature. The delicate tones of colour in the trees and herbage and sky, the perfection in drawing and beauty of colour in details of leaves, flowers, fruit, animals, birds, insects, &c., and the forms of fishes are lessons in decoration which should be learned at first hand. Deductions and inspirations innumerable may be gathered from them with a freshness no study at second hand from man's work can give. Burges used constantly to make his pupils draw all sorts of flowers and insects and colour them, as well as study from the life in his office. Emerson says:—"In every landscape the point of astonishment is the meeting of the sky and the earth, and that is seen from the first hillock as well as from the top of the Alleghanies." And what a truth is here! It is in the meeting of the heaven and the earth, the spiritual and the material, that art is rendered capable of conveying sentiment and lessons.

The study of nature, no matter under what aspect, puts some germ of life, some sentiment into the spirit of the artist, whether he be an architect, sculptor, painter, poet or musician. Inconsistencies or vulgar eccentricities are never found in nature, though infinite wonders are discoverable to the observant mind, and in its study one may learn all beauties of proportion, form and colour.

Therefore cultivate habits of study and reading, as Bacon said, "not to contradict or believe, but to weigh and consider."

Higher education is absolutely necessary if the status of the architect is to be raised. It should be remembered that doctors and barristers are almost always university men; and it will be well to bear in mind that the sooner it becomes the rule rather than the exception for architects to receive a higher, or perhaps a university, education, the sooner will the acknowledged status of the profession be elevated.

Then for facility of practice the architect should cultivate his memory; and as all cannot perform feats of memory, a practice of writing down useful information should form another habit. The architect in designing not only requires to remember details of old and other work as a guide, incentive or restraint to his own, but he must recollect endless details of construction and many specialties for building purposes necessary in modern structures, and this is no trivial matter. But, above all, he must remember the effect certain proportions, details and compositions have given in isolation or when in juxtaposition in former examples, ancient or modern. He will thus be enabled to reject or improve the crude and profit by the excellent. Masters in our art have followed the teaching of many old examples, and they have felt it necessary to reject others. Originality of design is not shown by the utilisation of forms which better and more cultivated men than ourselves have seen good reason to discard. An educated perceptive faculty and a good memory are necessary to realise the full teaching of past times.

There is also, in connection with the practice of the art of architecture, such a word as proportion; and the value and meaning of this word may easily be lost sight of. To the architect's mind may probably immediately be suggested the comparative relation of one architectural detail to another and to the whole composition. But besides the objective symmetry and harmonic degree of form or size, proportion may be considered by the architect in other ways. Of course, proportion in this sense is the very first essential of fine architecture. It should be an inherent faculty in the architect and artist, but it may be cultivated.

It is by the proportions as much as—or even more than—by the beauty of detail that the mind is impressed by works like the Parthenon, the Pantheon, Westminster Abbey, Chartres Cathedral, the "Mercury" by Praxiteles, the "Venus di Milo," Michel Angelo's "Moses" or Cellini's "Perseus," or by the delicate refinement of the proportion of scale and relief in the decoration of the Villa Madama. And proportion must descend, also, to the smallest details. The perfection of Cellini's goldsmith's work is as much in its proportion and as important to its excellence as his wonderfully finished detail. The same applies to Etruscan goldwork and the best Indian works.

Proportion in colour is also a most important factor in the excellence of artistic work.

The study of nature is the guide as to how much of any one colour will harmonise with another. How often is work spoiled by the introduction of too much colour or by its tone—by the coldness or excess of blue, or the foxiness of too much red, or the unpleasantness of a superabundance of yellow. Such faults never occur in nature. The general tones of nature, whether brilliant, as in the East, or sombre, as is often the case here, are always in perfect harmonic proportion; so also are the details of brilliant colour in birds, insects and flowers. It should be noticed that it is only in details like these that brilliant spots of colour are found in nature. The Owen Jones prize is given as an incentive to study of colour in reference to architecture. It might well include in the students' works studies from nature.

It seems a pity that a greater proportion of colour cannot be effectively introduced in the buildings of our towns, which are usually so fearsome in their sombre dulness. But there can be no doubt much colour in buildings requires a bright sunshine, as in Greece, Egypt and India, to give it its true value. Nevertheless, I think we might be a little more cheerful in our streets with some advantage.

There is also a proportion in architectural work which requires to be maintained between coarseness and refinement. This is a very subtle point in all good work. Too much refinement in architectural work tends to weakness of effect and deprives it of its masculinity. At the other extreme "muscular" architecture, as it was termed when the reaction from the Late Perpendicular of the early part of the century set in and a phase of Early French architecture was the fashion, may degenerate into coarseness. It is the carefully balanced proportion between these that avoids either extreme. The effect of all the finest architecture has been attained by a combination of strength and power with refinement of well-proportioned and beautiful detail.

Too much care cannot be bestowed on the proportion that sculptured and other decorations bear, first, to the whole composition, and, secondly, to each other. They either give scale or destroy it. They either adorn it or make it appear tawdry. In all this the architect's should be the guiding spirit, however much may be done by the craftsman or sculptor.

Then there is the proportion that the worship of one's art should bear to one's life. It is often said, as if it were the greatest praise, "He lives solely for his art." I doubt if this could be said of any truly great man. It is too circumscribing and belittling. The larger the environment the greater the sphere of usefulness in life, and so long as the time occupied in other affairs is not out of proportion to the valuable hours necessary to one's life's work, mingling with others and doing work in other ways enlarges the mind, is our moral duty, and should benefit our art.

Success is an object of life, but need not involve a want of sympathy with others, nor pushing on self regardless of their claims, nor flinging on one side all other considerations on the road. Success in the practice of an architect, as in other callings, should be aided by a proportionate feeling sympathetic with a life full of effort and enthusiasm.

Nevertheless, success in the art of architecture should be the settled purpose of him who proposes to practise, and that to the fullest extent, "in proportion to his being a human being, living his life amongst his fellow-creatures, to whom he can impart or derive something. The aim of culture is to make us better company as men and women in the world." The greatest men, like Michel Angelo, Donatello, Cellini and Goethe, were all men of other affairs besides their art, and were in sympathy with their surroundings of thought, work and politics. To quote Ralph Waldo Emerson again, "However much of real power is found in solitude and in silent moments, a proportion must also be developed by exchange of thought and ideas in mingling with sympathetic interest with our fellow-men."

There is also a proportion that should be observed between the ideal and the sentimental.

The one is the spiritual in our art, the other the simply sensuous.

Æstheticism, another American writer says, is not "the vital force inherent in the idealist; much of what in our architectural art of to-day seems to satisfy the casual and thoughtless is devoid of the life and spirit of art. The one is the appreciator and creator of all noble forms of art; the other is at home among the ginger-jar style of decorative effect." "It is the idealist who will, with a strong faith in the spirit that is in him, and with energy of purpose, strike out for himself fresh achievements. He may fail, but he is ready to take the risk, and has the courage of his opinions. To the æsthete a lower plane of work altogether, a pretty tone of colour or eccentric form, a delicate curve or a sentimental line of poetry, devoid of the spiritual essence of the ideal but pleasing to the fancy, will afford infinite satisfaction."

So there should be proper proportion maintained between artistic sentiment and practical purpose. The man who sacrifices the purpose to the art is not a useful member of the community, while he who sacrifices his art altogether to utility does not elevate the community. It is the correct judgment weighing the proportionate values of the one and the other which makes the architect.

It has been said the aim of the ancient philosophies was to raise man above common notions of happiness, an endeavour to crush his humanity and develop his divinity, to make him happy by refinement of mind and soul and by the ignoring of his material pleasures—meaning, I suppose, if this be a true rendering, complete self-denial, not so much for the benefit of humanity at large as for the individual's own exaltation. The Baconian philosophy which marked the beginning of the great strides in science and utilitarianism that have taken place during the last century was very different. It taught that nothing can be beneath our attention that may minister to the physical or material benefit of mankind. The first was grand, but scarcely attainable or alone desirable for our human natures; the second was attainable and useful to man as he is. So the art part of architecture, the soul of it, a most potent factor in mental pleasure, is for the satisfaction of the divine side of humanity, but alone it does not altogether satisfy the requirements of humanity; the utilitarian side of architecture is also most necessary for the satisfaction of our physical needs. The needs of both soul and body must be fulfilled in good work, and are equally worthy of the highest efforts of our intellects and imaginations. In architecture it is the hopeful spirit of the men of imagination coupled with practical common sense, a level brain and a cultivated taste that is wanted to weigh well the boundaries of the respective values of a practical idealism and a maudlin sentimentalism.

Then there is the necessity for a proper proportion being maintained between work and rest. There is such a thing as staleness. The want of recreation makes a man dull, unfit for companionship or sympathetic mingling with or interest in his fellows, and his work suffers in consequence. Also there must be margin for reflection and thought. Great achievements usually germinate in quiet moments. An overworked brain and no physical activity or recreation must have a bad result both on a man's work and his life. So time should be proportioned that there is leisure both for light reading, the study of nature and for recreation; then there will be freshness and vigour in your work, and if you always aim above your mark and remember that what you do should not only be for your own personal satisfaction but for that of others and for future generations, your restful moments may benefit the world.

Then of much importance in connection with the practice of the architect, as in all other businesses in life, there is another thing that must be borne in mind, and that is right principle. This in architecture will mean an avoidance of shams and false construction, which somehow always manage to look wrong, even though worked on such a grand scale as the external walls of St. Paul's, or the impudent ugliness of our shops with stone façades, apparently standing on nothing. Truth makes work look consistent and correct; lack of it offends good taste. Palatial decorations in offices, ecclesiastical embellishments in restaurants, the affectation of a cottage simplicity in a palace, or *vice versâ*, imply a want of appreciation of the fitness of things, and are wrong in principle, and this element of truthful principle in architectural art should be carried down to the smallest detail if the work is to live.

Then there should be right principle in your motive of action; and this is a most important point if you desire not only your personal position to be respected by others, but also wish to uphold the dignity and status of your profession generally. Professional respect must ever depend on the character, conduct and aims of the units in the profession. Each individual has his own particular influence on the appreciation with which his profession as a whole is viewed by the public. Dubious transactions entered into for the sake of emolument, a too great regard for personal advantage, or a disregard of the interests of others, tend to acts lowering to the profession. On this ground I would recommend due consideration before entering into competitions. See at least that the conditions are not derogatory to the dignity of a great profession, and see that they are fair as much in your competitor's as your own interests, and let no unworthy thoughts of possible interest or influence induce an activity which in the long run not only must be disadvantageous to you personally, but also detrimental to the profession as a body.

The highest principles of morality should be the guide in professional practice, not only in regard to art, but also in all dealings with employers, contractors, tradesmen, craftsmen and others with whom business relations bring you in contact. Work cannot be obtained without employers, nor carried out without tradesmen and labour of all sorts, and your success is bound up with these; therefore it is to your interest to treat all with a high-minded, unsparing sympathy. The architect should on principle enrich his mind and render himself proficient in all branches of his work, as his duty to his clients, and should deal fairly and avoid harshness in dealing with those over whom he is set as a supervisor.

A high principle in these directions would avoid much of the litigation and many of the unsatisfactory arbitrations so constantly arising. It wants a kindly spirit united to a firm will—the iron hand in the velvet glove—to perform all an architect's duties in the highest manner, and to render himself and his profession honoured and respected by the public and those with whom he has business.

Always remember the words—

> Thy credit wary keep, 'tis quickly gone,
> Being got by many actions, lost by one,

and our reputations are the immortal part of ourselves.

Principle also should not only lead you to strive after success in your own practice, which is, of course, your high duty to yourself, but also to aim at helping others who may have less experience or knowledge than you have, and thus assist in elevating your profession. With this view you cannot interest yourselves too much in the work of this Institute, whose objects are to encourage the art of architecture, to uphold the interests of the profession, and improve its status. This obligation will be best served by a large-minded way of looking at all sides of thought, and by cultivating broadness of views in our art of architecture, with a proper consideration for the sentiments of others, and not by the pushing forward of any particular school or clique.

In combination we are strong; separated we are comparatively weak. There is room in this Institute for all architects who are capable and honest in their views and endeavours, and the wider the circle of thought it enfolds, the greater the sphere of its usefulness will be, and the more it will foster education and dispel ignorance, and maintain the reasonable humility that should distinguish all those who claim to be artists; for, as Prior says:—

> By ignorance is pride increased:
> They most assume who know the least.

Mr. J. A. Gotch, F.S.A., then read a paper reviewing the students' works, in which, as he said, his desire was to raise rather than lower the standard of endeavour.

The President presented the prizes to the winners, whose names have already appeared in *The Architect*.

Votes of thanks to the President and Mr. Gotch were proposed by Mr. John Slater, seconded by Mr. Aston Webb, A.R.A., and carried unanimously.

STAINED GLASS IN THE SAINTE-CHAPELLE, PARIS.

LA SAINTE-CHAPELLE originally formed a portion of the ancient palace, and was erected by St. Louis about the middle of the thirteenth century. The chapel contains sixteen windows, four on each side and seven in the apsis which forms the eastern termination, the sixteenth being a rosace which has been restored, both stone and glass, and is probably not earlier than the middle of the fifteenth century. The ironwork of the windows, forming the frames of the compartments in which the glass is arranged, is well worthy of attention for its beautiful and varied form of composition, producing in the tall spaces which it occupies an effect which, in a certain degree, supplies the place of tracery. Although many of the compartments have been destroyed, the glass abstracted and in others much damaged and badly patched up, the losses are small compared with what remains in a high state of preservation, which may be stated to amount to about 800 compartments, representing chiefly subjects in scripture history.

Every one is familiar with the blue tone of the early style of stained-glass, arising from that colour having been almost exclusively used for the backgrounds of the compartments, which is the case with the glass of the Sainte-Chapelle, and as the harmony of the general effect is supported by the introduction of a preponderance of the same colour in the general groundwork of the lights, this tone prevails throughout the whole surface of the glass—reds, greens and violets, with only a small portion of yellow, flesh-colour and other light hues, forming the relief and contrasts. The glass, therefore, admits but little light, and on the north side, under the influence of sunshine on the opposite side, fails even in its effect of transparency, a result which must have been noticed by all who have had an opportunity of examining glass of this kind under different aspects. It appears, however, from the restoration of the polychromatic decoration (of the authority of every part of which no doubt can be entertained), that the architects of the Middle Ages were well aware of this inconvenience, and took good measures to counteract it, the stonework of the windows being coloured of a sort of deep maroon. The effect of the glass set in a framework of this tone is something very different from its appearance between jambs and mullions of dead white, as it is most generally seen. The confusion which results from the collocation of such an infinite number of small pieces of coloured glass as we find in the compositions of this style have been sometimes considered one of its beauties, and the glass is commended because it looks like a Turkey carpet. This is certainly the case with the glass of the Sainte-Chapelle; the first impression conveys nothing to the eye of the mind but the unmeaning variety of the kaleidoscope; but, let it be observed, that to produce this effect with distinctness is no small triumph of the art of collocation of colours.

The general belief is that there is some extraordinary quality in the colour of the ancient glass. That it is so with some has been recognised by those who are practically acquainted with it; but there are instances, and the Sainte-Chapelle is one, where much of the red glass is far from being of a good quality; but this is by no means perceptible in a general view, and it is not to be doubted that the brilliancy of the old red glass depends more upon its collocation and the effect of judicious contrast than upon the individual character of the colour. If the forms are confused, the colours are not confounded; and when we consider how easy it is, by the injudicious disposition of small surfaces of transparent blue and red, to fuse them into a general effect of purple, of all results the most disagreeable and inharmonious, we must admit that the art was well understood by those who combined them as they were combined by the glass painters of the thirteenth century. It can scarcely be doubted that the result produced was the one calculated upon by those artists—the effect of a rich and harmonious *coup d'œil*, at the first view heightened by the obscurity and mystery which enveloped those details which a more deliberate survey and examination brought to light. If this were really their purpose, their success is undoubted; whether this be the best mode of treating stained glass is another question, and opinions may differ upon it. Stained glass was certainly treated very differently when it became combined with fine art—a quality to which the early glass can make no pretence. The later Flemish and German glass exhibits a combination of the qualities of good drawing and composition, with those conditions which are indispensable in glass painting, and separate it altogether from the art of painting on canvas.

One of the conditions which was never neglected as long as glass painting was understood, and which will be found invariably attended to in every successful specimen of stained glass, whether ancient or modern, is the profusion of detail. The earliest and the latest glass, however differing in every other respect, possess this in common. In the glass of the thirteenth century this quality is produced by the minuteness of the parts; in that of the fifteenth, when the large treatment of the subject necessitated large masses of the same colour, it is obtained by the intricacy of diapered grounds, or sometimes in the German glass by the minute elaboration of the draperies. It is not enough that this diaper work should be introduced where the eye can appreciate and distinguish it; in the old glass it is developed in situation, and on a scale where it is inevitably thrown away, except as contributing to the general effect, which would be as inevitably marred by its absence. The rosace at the west end of the Sainte-Chapelle may be adduced as a strong instance of these observations, so far, at least, as regards the practice of the Middle Ages. In this rosace there are eighty-one principal compartments containing a series of subjects from the Apocalypse, of which about sixty-six remain entire. The style in which this glass is executed exhibits the strongest possible contrast with that of the older series. There is very little colour of any kind; instead of strong contrast the effect is brought out by chiaroscuro. In what colour there is, the predominating one is yellow, but there are vigorous touches of red, of great value to the effect. There is, of course, none of the depth and richness which characterises the original windows, but there is a transparency and a sparkle scarcely less imposing in its effect; and when to this impression succeeds the examination of the detail, a proficiency in drawing and composition is developed, united to a refinement and delicacy of execution which can be fully appreciated only by means of an opera glass, and which might be thought to be thrown away, did not experience prove the elaboration of the detail, whether in one form or another, to be the one thing needful to the true effect of stained glass.

THE ARCHITECTURE OF THE TWENTIETH CENTURY.*

(*Concluded from last week.*)

Garden Cities.

THE *City Beautiful.* Is there a city which might be called beautiful in the whole of Great Britain? Some approach beauty, but there are foul blots in most—slums, badly-constructed tenements and insanitary factories—which spoil the picture. What can we say of the heavy pall of thick, black smoke which hangs over London, and to a much greater extent over the manufacturing towns of Northern Britain? Is that a subject of gratification to our municipalities, or a matter affecting the public health which should not be remedied? I believe I am right in saying that laws do exist which prohibit these monster belching chimneys from fouling God's air and blacking the earth, but that these laws, from local influences, are often not put in force. The open fireplace it will always be difficult to dispense with, owing to associations connected with the domestic hearth, but important improvements in its construction are already shadowed relating to smoke consumption which will, no doubt, be enforced on all householders. Personally, however, I am inclined to think that gas will supersede coal for warming the ordinary buildings. Let us glance at London—London the great, the picturesque and far from ugly capital of the empire.

Roof Spaces.

In the first quarter of the new century, when London, with the assistance of legislative action, may be expected to have shaken itself clear of its smoky curtain, and to have removed a large number of its most offensive factories to a convenient distance into the country, the question of overhead promenades formed upon flat roofs will probably be brought to the front, and found to be possible. The roof promenade may be a feature of the next century, and we shall perhaps return to the usage of the Egyptians and other Eastern peoples. These roof spaces, adequately protected, could be more generally utilised as playgrounds, flower gardens, tennis and sports generally, or even as in Chicago to-day, as a space where shops could be erected. If imagination does not desert us, we might conceive a football match on such spaces with the attendant thousands of spectators. Such roof gardens will have this advantage: that in the summer, when fires are not needed for heating purposes, and when cooking will be effected by electricity, the air will be quite free from smoke, and they will be more conveniently used. "Afternoon tea" on the roof will probably be the invitation of the future, and with the above suggestion a substitute would be found for a terrestrial garden. Public health would be benefited thereby, for the cool breezes generally obtainable at the height of a five-storey house, with a view from the Highgate heights to the Surrey Hills, would be a blessing to the jaded office worker. I only mention this as showing the possible effect of public health problems on architecture, because the advantages of level roofs are admitted, and it is possible that when the way is cleared by a better atmosphere, the great cities, owing to value of land and increase of population, will wake to the advantages which they now miss, and a third London will appear on the house-tops, as there is already a second beneath the surface. Time will not allow of pursuing further the fascinating subject of the future city, for we must pass on.

Domestic Architecture.

In approaching domestic architecture one is met on all sides with so many "ifs" that the difficulty is to proceed at all. What is to be civilisation of the next century? Is it to be socialistic—the levelling of the rich—or is it to proceed on the lines of the present day? Will the people rush from the towns to the country, or *vice versâ*? It is plain that the railway, the cycle, the electric tramway and the new "flying machines" will quite as much tend to throw the people out of as into the great cities. It would certainly seem that with improved methods of communication there will be a tendency to live out of towns and work in them, for those at least who are able. It is considered now somewhat a feat to live at Brighton, with one's business in London; but we may take it that such a thing will be quite common, and that by the middle of the century a man may possibly go much longer distances. Domestic architecture will be governed very much by the course which easy transit develops, and such being the case, the health of the community will no doubt be improved by the placing of people over a wider area of ground. But, besides easy transit, telephonic communication and the new science of writing by wire, known as the telautograph, will have an important effect on the distribution of population, and hence on the health of the community, and it is not unlikely that the trend of events will enable us to carry on our practices far from the madding crowd. As an instance, I call to mind how some years ago in the United States I visited a village ten miles from Boston, where the most celebrated landscape gardener in the United States lived, and where he worked with his assistants on his designs. Being in telephonic communication with Boston, and from thence with other centres of population, he and his staff had the advantage of being in direct communication with his clients, and at the same time of living in the country, with all the advantages of fresh air and congenial surroundings, an environment which we must admit is conducive to the production of the best work. Such is an ideal state for an architect, and it needs no great stretch of the imagination to conceive its possibility. But even if we work in cities, it is certain that with improved means of communication the dwelling-house will be the better for being removed from the environs of the city. If there is one class of building which has improved in design and construction during the last fifty years it is the smaller houses of the suburbs and provinces. It is true that streets of houses are still erected in the suburbs by speculating builders, but it is possibly a hopeful sign of the times that, whereas formerly such houses had no pretence to being designed in a sanitary manner, yet now, in many instances, besides being so designed, an endeavour is also made to give them a pleasing architectural exterior, which is of course very seldom successful, but still the attempt is encouraging. The drainage and sanitary fittings are now boldly advertised and placarded, even to the great luxury of one bath with hot and cold water. Other alluring enticements are held out to the future occupier. In one house on the outskirts of London which I recently had occasion to visit, a plan of the drains engraved in red lines on a brass plate was prominently fixed to the wall by the kitchen dresser. It is needless to say that after such a display of careful sanitary forethought the house was immediately sold, and I give the suggestion to anybody with a house unlet on his hands as a prescription by means of which the desired result may be attained. It is, moreover, a hopeful sign of the times. Although long unlovely streets of dwelling-houses are still erected, all cast in one mould, and people are obliged to live in them, there is a decided move towards a desire to live in a house with some character about it which shall differentiate it from its neighbours. Will this tendency increase and will such houses multiply, or will the desire die out? The discussion may possibly point the way. I must be permitted a few words on this important subject, because I really think it is connected with the idea of public health in its widest sense, A house which is to be a home should be made to suit the occupant in the same way as his clothes are, or should be made to fit him. A man should not, if he can help it, stuff himself into any house haphazard. The growth of individualism in taste is certainly manifest, and the greater interest taken in ordinary art matters by the coming generations will possibly not be lessened. But although the country dwelling-house will possibly increase to a considerable extent, yet there must always be a considerable number of dwellers in cities, and their lot in the garden cities already foreshadowed should be of comfortable character. Where will they live and how? The twentieth century "flat" will be a creation of its own, something to make the lonely bachelor of to-day sigh for. Everything will be able to be "turned on." I do not know how long we have been able to turn on water in our houses, but it must have been considered an immense advance in sanitary science, and must have done much towards the attainment of that personal cleanliness which has been considered by some experts to be next to godliness. Besides turning on water for washing, gas for heating, electricity for lighting, the liver in the flat will press a button for breakfast, lunch or dinner, and somebody else will do the rest, *i.e.* supply it. By the pressure of another button the "babbling machines" described in "When the Sleeper Wakes" will be turned on, and will tell the worker while he eats his breakfast the morning news supplied from headquarters. People will be too busy to read newspapers in the coming days. The life in a flat will be socialistic, yet exclusive; for although the ménage will probably be undertaken by one person for the benefit of many, yet the result will be available privately. This life is already shadowed forth in the United States and in London, but there seems no reason to doubt but that it will become very general among the class of people who will inhabit such buildings The great domestic-servant problem is going to account for a good many things in the coming century. Amongst others, we may expect the multiplication of fittings, such as lavatory basins with hot and cold water in each bedroom, the use of gas fires for heating, the more sanitary arrangement of servants' quarters. In how many houses of even fairly good size are there servants' bathrooms? Yet surely our successors will look back upon such a state of things with wonder.

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* A paper read before the Birmingham Architectural Association by Mr. Banister F. Fletcher on February 8.

The Working Classes.

We used to hear often about "better days for the working people," and no doubt better days have come. The poor we always have with us; and by a similar method of observation so have we the working classes The Rowton houses, the County Council lodging-houses and the immense blocks of flats already erected in London are but the precursors of other big schemes which will certainly be pressed forward as population increases. This is perhaps one of the greatest public health problems we have to face. It is, moreover, so wrapped up in our commercial system that much will depend in the way that manufacturers regard it. Will the factories be removed to the country, or will they to a large extent remain in the towns? Personally, I am inclined to think that a large proportion will go to the country, and that only a few will, from their nature, probably remain in the towns. Let us picture

The Country Factory.

The country factory with the cottages for the employés is an excellent idea, and one likely to give the best results to employer and employés. The employer will construct his factory on land comparatively cheap, and by providing his workmen with house accommodation, also at a low rent, will have at his disposal a contented community, living largely in the fresh air; and, being under healthy conditions, will give better results than the town worker crowded into compartments necessarily small because of the value of city land. The growing families will also have the inestimable advantages of fresh air and country life Some of the large manufacturers of the North have already tried this plan with good results, such as Messrs. Hartley, Lever and Cadbury, and new villages with the latest sanitary improvements both in the planning of the cottages and in the abundance of light and air and tasteful surroundings have sprung up. If such schemes should prosper we may look forward in the new century to a return of the people to the country from whence of late years there has been such an exodus, and the improved means of rapid communication already foreshadowed will assuredly assist in such a return.

People's Palaces.

On the other hand, if the study of economics should compel the abolition of the present wasteful system of living, the multiplication of fires for warmth and cooking, the waste of service, the extravagance of buying food in small quantities, then it is possible the erection of country palaces for the people—on socialistic principles—will be erected. Such palaces, with proper equipment, could supply all the needs of the community as to food, service, &c., at probably a quarter the cost of the individualistic cottage treatment. Each palace would be contained in its own park, with lakes, playing-grounds, &c. Such a building—a real people's palace, a twentieth-century homestead—may be beautiful, although in the minds of many not so picturesque as the simple thatched cottages of our forefathers. At any rate, the old dark and damp cottages of the present period, devoid of a proper water supply, will soon sink on their rotten foundations; the educated working-classes of the future, who will know the evil effects of damp, will refuse to live in them, and they will be replaced by structures dry, well-planned and lighted, with proper water supply and drainage, and healthily constructed in all particulars The old, picturesque "lichen-covered" thatched cottages, which we eagerly pounce on for our water-colour sketches, are, we may rest assured, more pleasant to sketch from the outside than they are to live in. Before returning to the town-dweller, we must spare a moment to discuss the scarcity of rural cottages which at present exists It is a feature of this period, and the reason is that it is almost impossible to erect cottages which will pay a fair percentage on the outlay. That being so, it becomes a question whether some such scheme of communistic living as hinted above will not be the outcome of this state of things. I believe such scarcity is partly due to the present building regulations, which for this class of buildings are unnecessarily stringent. There is no reason why country cottages with proper brick foundations and damp-courses should not be built of wood in the upper part and make perfectly sanitary constructions, and it is the usual way of building even large country houses in the United States.

Workers in Town.

But a large proportion of workers must always live in towns; the needs of town life demand it. There is, however, a good deal to be said against these huge blocks of barrack-like buildings which have lately housed so many persons on a limited area, even if the sanitary arrangements are perfect. The absence of sunshine and fresh air is bad, not only for children, but also for older people, to whom the multitude of steps is specially objectionable. The absence of light and air in the lower floors of these huge blocks of flats is specially to be remarked.

Municipal Buildings.

Let us look at a few types of structure which concern themselves somewhat less with the public health, and speculate in what way they are likely to be influenced by the progress of civilisation. The development of municipal architecture will depend, of course, on the view the masses take of their citizenship, and whether they will regard the emulation of the architecture of rival towns as falling within the scope of citizenship. In the past ages such has been the case. From the Hellenic period of Greek civilisation, from that of Augustus through the Middle Ages, and in the great Renaissance movement of Italy in the fifteenth century, the emulation between rival cities has been the means of producing buildings of the first importance. In our own day the town halls of Glasgow, Liverpool, Manchester, Oxford, Colchester, Sheffield and other large towns have risen in evidence of this feeling, and as if to point the way to the importance of architecture as an exponent of the city's progress. The stately town, the emblem or visible sign of the harmonious life of the twentieth-century citizen, will be the product of the moral forces, of which sanitary science is not the least important. Municipal buildings are worthy records of a city's greatness, and as the country population appears steadily drifting towards the towns, thus increasing their numbers and wealth, the new century may possibly be productive of this result. But whereas in the Middle Ages in England the principal building rivalry often lay between cathedrals, in the twentieth century it will probably be more of a secular rivalry between cities. As regards theatres we may expect a great revival of building, which has, moreover, already commenced. The love of music and the drama is assuredly on the increase, and will continue to grow. The late John Addington Symonds, the distinguished critic on the Italian Renaissance, said that music was the only true modern art, the only art which seemed to appeal to the senses in a modern way. Certain it is that the public generally take a far greater interest in music than in architecture, painting and sculpture. As municipalities expand and increase in wealth provincial theatres and concert-halls will rapidly increase. In this respect the piece-meal decoration of the Royal Exchange in London is an example of how not to do it. Instead of the decoration of such an important building being competed for by the best fresco artists of the period, and the prizes awarded to the finest conception as a whole, isolated pictures are selected from time to time by eminent artists, the result being a want of continuity of scheme which is unfortunate in its results, instead of the whole series of frescoes forming a continuous picture of English or, say, London history formed under one general, comprehensive sequence. There is, or should be, an intimate relation between architecture and national life.

Picture galleries, museums and public libraries will become a *sine quâ non* in every provincial town, and in many cases will form part of a group around the town hall, the building symbolic of the executive who will direct the formation of and undertake the custody of such collections. In London, "the city of cities," the division into separate municipalities will, it may be hoped, engender a broader municipal spirit, so lacking under the old vestry system, and so lead to the erection of appropriate municipal structures worthy of the importance of each, as representing a city in itself. Public baths and wash-houses will be considered as necessary to every town or district as a system of drainage, and our grandchildren will look back with horror at the insanitary nineteenth century, in which, although lecturers were continually priding themselves on the advance in sanitary science, local authorities were not compelled to provide facilities for the furtherance of public health. Properly constructed abattoirs, provided with efficient sanitary precautions in the slaughter of animals for the purposes of food, will undoubtedly be entirely under municipal management, as in Paris and other large continental cities. The most significant constructions of the new century will possibly be the monster towering hotels of which in London we have but seen the commencement. Such will be the expression of the touring, travelling and luxurious twentieth century—the age of big cities, art pilgrimages and personally conducted parties; the age of the sightseer and the "looker-on"; the age in which people will feast upon the glories of the past, live in the future, and exist by way of contrast in the present. Asylums, police-stations, fire-stations, waterworks, electric works, tramway works, Board schools, poor-houses and hospitals, all of which are the outcome of our modern social condition, will increase a thousandfold. The greater the science of public health is studied and applied the greater, however, the chance of the "weaklings" pulling through, and being a charge on the public purse. The strain of living will increase the number of lunacy cases to an unparalleled extent, necessitating considerable additional hospital accommodation for neurotic diseases. People will talk of the good old days of the nineteenth century, and will fondly believe they would have been happier now than then, and perhaps they would be right. Within the region of purely monumental architecture can we expect much? Possibly not. The monuments of the twentieth century will be ranked as works of utility. The great railway stations, properly planned for ingress and egress and the health and comfort of the community, will take the place of the present cramped enclosures. When in, say, 1925, the flying-machine shall have been perfected, it may necessitate a reversion to the huge platforms some 50 feet in height and several thousand square yards in area in use in Babylonia 2,000 B C, and on which the temples and palaces were placed. Such raised platforms will be required as resting-places for the twentieth-century flying-machine, these elevated platforms being reached by lifts continuously moving. Such platforms will be constructed of steel, the best prototype I can give you being the half-finished Wembley Tower, near London. In the great constructive science the bridges of the future will probably be of astounding dimensions, and the new Brooklyn Bridge may be regarded as a forerunner of many which will far surpass it. To bridge from Calais to Dover, and even from London to New York, is a far from unlikely occurrence. And yet the thought comes, Shall we do without bridges?—shall we with the aid of flying-machines fly to New York, fly everywhere and anywhere? In such cases we may possibly require resting-places at stages in the Atlantic for the lubrication of the monster wings of the flying-machine, such resting-places taking the form of the monster steel platforms of the Wembley Tower type already mentioned. Am I romancing without reason? It may be so, and yet it is not possible for anyone to say these things will not happen. If we look at the strides in every science which have been made in the past century, we must feel that if the present is to proceed in a like ratio, not only the things I have sketched for you, but much more also, will come to pass.

A Twentieth-Century Architect.

And if this is a correct view of the architecture of the coming century, what of the architects—of the creators of such work? If architecture in its outward forms has not advanced by any revolutionary stages along the highway of progress, yet in the manner of construction she has and will develop exceedingly. Old Philibert de l'Orme, an architect of the French Renaissance, once said that an architect should have four eyes, four ears and three hands, and if it was necessary then, what now? An architect nowadays is necessarily skilled in mechanics, several sciences and in various arts connected with architecture? Now architecture differs in one essential quality: that while the latter is a matter of common sense, which everyone understands, and therefore can appreciate, the former in its highest stages is based on an appreciation of æsthetic quality, which the public can scarcely be expected to understand. The new century will be a utilitarian and scientific age essentially, and architects will have to adapt themselves more to the requirements of the time, and hold less to the antiquated ideals of the past centuries, if they are to capture and retain the public interest. We must be of the twentieth century if we would succeed in it. Therein lies our great difficulty, prevalent in no other profession, for architecture is an art, science and profession. In architecture we have the artistic requirements sadly hampered by the material needs, and above, dominating those, the professional qualifications requiring us, as men of business above all things, to protect our clients' interests. The question of architectural education, therefore, is an important one. The foundation of the Royal Institute of British Architects and the Architectural Association in the last century, and the institution of professional examinations, are merely the reflection of the spirit of the age, in which the public require to have some indication that the men they employ are capable, and, in fact, that they are qualified to practise their profession. This will undoubtedly lead to a compulsory registration for architects, when no one will be allowed to practise without a diploma. To the public it is a never-ending theme of amazement that anybody can call himself an architect. And truly it is quaint. We cause the men we direct on our buildings to be registered. We have our registered plumbers, our carpenters, bricklayers, joiners, plasterers and masons, who have all served their apprenticeship, besides being technically educated, and yet anybody can call himself and practise as an architect. Let us think for a moment of the power for good or evil in an architect's hands, due to his knowledge or ignorance in matters connected with building, and then who can doubt but that this compulsory registration is bound to come? Opposition has always been forthcoming in these matters. In the law, in surgery and in medicine, the same well-worn statements have been flung back to those who have advocated progress, and generally this opposition comes from the older men, the relics of a past age, who can see no good in change of any kind. The only real difficulty is the question of the possibility of examining in art, and as far as the public goes, it would not matter if art were left out of the question, for in nine cases out of ten the public employ us to protect their interests, and not to provide them with artistic work, about which they know little and care less. The principal thing to remember is that the public expect us to be thoroughly qualified all round, to be directors and experts of all departments of building, and to possess the business qualifications for guarding their interests, which are usually associated with the profession of the law. If a profession or calling which is employed by the public is to continue to exist there must be confidence by the public; and how are the public to know with certainty the qualified from the unqualified, unless some official qualification is available? Again, a great part of the architect's ordinary practice consists in utilitarian work, which requires no artistic talent, but which does require great scientific and practical knowledge and business habits. We have elsewhere hinted that sanitation will be the guiding star of the new century, and in matters of drainage and in everything connected with the hygiene of the house with which architects are concerned, and they will, no doubt, be properly registered to deal with such work. If persisted in, the present fine-art theory of architecture, held by a few eminent architects who have clients enough to support their fancy, will tend to the gradual absorption of legitimate architectural work by builders or big firms of decorators, who probably will employ a "tame" designer to put a frontal to their stock plans. In regard to the increasing complexity of our civilisation, the number, extent and intricacy of new types of constructions, it may also be expected that the tendency to specialise will develop itself, although the general practitioner will, of course, continue to hold his place, as in other learned professions. Such are a few of the thoughts which I have been able to put together, dealing with the future of architecture, and although they are far short of what I had hoped to produce, yet, in the time at my disposal I have found it impossible to go more deeply into the subject, but hope that I may, at least, have made suggestions upon which a discussion may be profitable.

Three Paintings have been stolen from the exhibition of the works of the late Jules Machard at the Ecole des Beaux-Arts at Paris.

THE ARCHITECT AS ARBITRATOR.

JUDGMENT was given in the Court of Appeal on Wednesday in two important building cases, viz. Chambers *v.* Goldthorpe and Restell *v.* Nye, which turned on a similar point. In the first the plaintiff, an architect, sought to recover fees. The defendant counterclaimed for negligence. The plaintiff in the second case sought to recover damages from an architect for negligence. Both appeals were dismissed for reasons which will be apparent from the following report of the judgment, which we take from the *Times* :—

The Master of the Rolls said he would deal first with the case of Chambers *v.* Goldthorpe. The plaintiff, Chambers, an architect, sued the defendant, Goldthorpe, a building owner, for payment of fees. The building owner counterclaimed for damages for negligence on the part of the architect in bringing out his final certificate. The only question raised on the appeal was one which arose on the counterclaim, and was this—whether Chambers was placed in the position of an arbitrator, or whether he was merely in the position of a person acting as agent for the building owner. If he was an arbitrator, then the building owner could not sue him for negligence; he could only sue him for fraud or collusion; and there was no suggestion in this case of anything of this kind. When they looked at the building contract it was plain that under many of the clauses of the contract Chambers was only to act as agent for Goldthorpe. With regard to the matters dealt with in those clauses his duty was simply to look after the interests of Goldthorpe, and in respect of those matters no doubt he would be liable to an action for negligence. But when they came to Clause 20, which stated that a certificate of the architect or an award of the referee was to be taken as conclusive evidence of the works having been duly completed, the question arose, Did the architect still remain merely the agent of the building owner, or was he not an arbitrator? It seemed to him to be impossible to say with regard to Clause 20 that the architect's sole duty was to look after the interests of the building owner. The architect undertook the duty of bringing out a final certificate. With respect to that he owed a duty to the builder as well as to the building owner, his duty being to hold the balance fairly between the one and the other. It was argued that in this case there was no dispute, and that there could be no arbitration unless there was a dispute. In his opinion there might be an arbitration to settle what otherwise might be the matter of a dispute. His lordship referred to the cases of Clemence *v.* Clarke, Lloyd Brothers *v.* Milward, and Stevenson *v.* Watson, and pointed out, with reference to the last-mentioned case, that Chambers had not merely to make an arithmetical calculation, but to use professional knowledge and skill. He thought that the case of Tharsis Sulphur Company *v.* Loftus, which was the case of an average adjuster, had a strong bearing on the case before them. He came to the conclusion that Chambers was in the position of an arbitrator. With regard to Rogers *v.* James, he thought that case had nothing to do with this. There the architect was sued for not supervising the building, which was a matter in which it was not his duty to act in the interest of the builder, but rather to act adversely to the builder. He thought that the counterclaim could not be maintained, and that the appeal must be dismissed. For the same reasons he thought that the claim in the other case, Restell *v.* Nye, could not be maintained, and that the appeal in that case should also be dismissed.

Lord Justice Collins said he was of the same opinion. The question seemed to him to be the same in both cases, viz. whether the architect was in the position of a quasi-arbitrator. If he was, then the case against him in each instance must fail. The question depended on this, whether he was in such a position that he was bound to exercise his judgment between the two parties impartially. It was suggested that he was only the agent of the building owner, and owed no duty to the builder. But in his opinion, when the building contract was read, it was clear that he was in the position of a quasi-arbitrator. An architect who was bound to give a final certificate, which should be binding not only on his employer, but on the other party, could not be said to be free from duty to the other party; he was under a duty to exercise his judgment impartially between the two contracting parties. And where a person was bound to exercise judgment between others involving professional skill, he was an arbitrator. He thought that the present cases were governed by Pappa *v.* Rose, Tharsis Sulphur Company *v.* Loftus, and Stevenson *v.* Watson, and that the architect in each case was in the position of a *quasi*-arbitrator. He therefore agreed that the appeals should be dismissed.

Lord Justice Romer said he regretted to differ from his learned brethren. He would state his views on what seemed to him to be a question of principle. In his opinion, if a person undertook for reward to value or estimate for another work about to be done for his principal by a third person, he did not, so far as his principal was concerned, become in the position of an arbitrator in regard to his valuation, or estimate, merely because he knew that his principal and the third person had by contract between them agreed that, in default of dispute previously arising with regard to the matter, his valuation or estimate was to be taken as conclusive and as determining the price to be paid by his principal for the work to be done by the third person. In such a case, in giving his valuation or estimate he would still be acting for his principal, and so long as he acted without fraud, he would be under no obligation or liability to the third person. And acting, as he would do, for his principal, if he was guilty of negligence causing damage, he would be liable to his principal in an action brought by him. He could not bring himself to think that that view was wrong. And yet, undoubtedly, the contrary view must be maintained by the architect in the present case to enable him to succeed on this appeal. For, on the facts, it appeared to be clear that by the terms of his employment by the defendant the architect undertook to measure up from time to time the work to be done for his principal by the contractor, and to certify the amount in money the work represented, and in particular, on completion of the work, to certify the balance payable. For this work he was to be paid by his principal. It would follow that, if in doing that work, for which he was to be paid by his principal, he was guilty of negligence from which damage ensued to his principal, he would be prima facie liable. To enable him to escape from liability, the onus would be on him to show that by the terms of the contract between his principal and the contractor he was freed from that prima-facie liability. No doubt he might do so if he could show that by those terms he was undoubtedly placed in the position of an arbitrator with regard to his certificates, and that the principal's complaint against him in regard to the certificates was for something done in his capacity of arbitrator. But, in his opinion, the architect would not succeed in showing this merely by reason of the fact that his principal and the contractor had by the contract agreed that in the case of no prior dispute arising with reference thereto his certificates should be treated as conclusive betweeen them. In the contract in the present case not only was there nothing going beyond what he had just mentioned, or indicating that in measuring up the work and certifying the architect was regarded or treated as an arbitrator, but the provisions of the contract appeared to him to negative the idea that under that contract he was regarded as or placed in the position of an arbitrator. He need not go through the whole of those provisions, but he might point out that there was an arbitration clause (Clause 22) which did provide for the settlement of disputes by an arbitrator who was not the architect, and in that clause the architect was clearly recognised as the agent of the building owner, as a person who, in reference to what he had to do, was considered as acting for his principal, and as one opposed to the contractor. And Clause 8 was not without significance. If there were any matters in respect to which one would expect to find the architect placed in the position of an arbitrator, if he was ever intended to occupy that position, it would be in reference to the matters dealt with by that clause. And yet they found that though the architect's principal would be bound under Clause 20 by the architect's certificate in reference to these matters, yet under Clause 22 the contractor might challenge the certificate and go to arbitration upon it. In fact, on this contract, far from it enabling the architect to discharge the onus which he had mentioned, in his opinion it was strongly against him. To hold the opposite view appeared to him to put a construction on the contract not necessary or right, and one which would work injustice as between the building owner and the architect guilty of negligence. His Lordship then referred to the authorities, and said that, in his opinion, there was nothing in any of them which prevented him from taking the view which he took in this case. The cases of Wadsworth *v.* Smith and Jenkins *v.* Betham supported his view strongly, and the balance of all the authorities seemed to be in favour of his view rather than of the contrary view, and also to be more in consonance with natural justice. He, therefore, thought that the appeal in the first case—Chambers *v.* Goldthorpe—ought to be allowed. He took the same view with regard to the other case—Restell *v.* Nye.

The Foundation-stone of a new lunatic asylum for the county of Middlesex was laid on Tuesday by the chairman of the asylum committee. The site of the new building is 440 acres in extent, and was purchased at a cost of 45,000*l.* It is situated just outside St. Albans, at Napsbury. The necessity for the new building has long been apparent, though the County Council has several times enlarged the asylum at Wandsworth. The plans are by Mr. Rowland Plumbe, who has designed the buildings in the pavilion style to accommodate 1,150 patients, 100 of these to be in a separate building, which is to be used only by paying patients. A hospital to accommodate 234 persons is included. The estimated cost of the buildings alone is 358,100*l.*, or 311*l.* per patient.

Correspondence

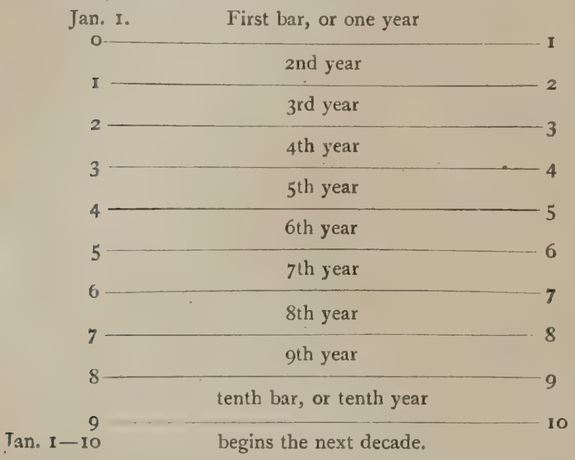
[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

Twentieth Century.

SIR,—I quite agree with Mr. Honeyman that it is astonishing how the press of this country has been led away by the popular error that the twentieth century began on the first day of this year instead of the first day of last, and still more astonishing how in this enlightened age such an opinion should have been formulated. If anyone will draw, say, ten parallel lines upon paper, each line representing a year, and marking the left-hand corner at the top with an o for nought, he will see plainly that from o to 1 will represent the first year, 1 to 2 the second year and so on, until at the end of the tenth bar he will come to the end of the tenth line or bar marked 9 to 10, which completes the first decade.

In other words, as Christ was born, according to our reckoning, on January 1 beginning at nought, He would at the end of twelve months arrive at another January 1, and so complete his first year, and on January 1, 10, He would have completed ten years, and on January 1, 30, He would have completed His thirtieth, and if He had lived till January 1, 100, would have completed His one hundredth year. Surely a person born on a particular date in one century if he lived till the corresponding date in the next century would have completed his hundred years. Say one born on January 1, 1800, will on January 1, 1900, have lived one hundred years.

The only way the fallacy of reckoning has occurred is, I suppose, the fact that people have gone wrong with the first year from nought to one. I append below the ten bars, which will clearly illustrate what I mean :—



Of course December 25 has nothing to do with it, as the birthday is merely kept on that day, but we have chosen to reckon the years from January 1 nought.

Hoping this will make the position clear to those who insist upon a contrary opinion,—Believe me to be yours truly,

JAMES N. CROFTS.

5 Harrington Street, Liverpool :
February 27, 1901.

GENERAL.

M. Cavvadias, Ephor of antiquities at Athens, has sent a communication to the Society for the Promotion of Hellenic Studies in regard to the remarkable discovery of Greek bronze statues off the coast of Cythera, which was read at their general meeting yesterday. Photographs of the statues were exhibited.

Alderman Sir Reginald Hanson has written to the library committee of the Corporation of the City of London, offering to place in the library or the art gallery at the Guildhall a bust of the poet Chaucer, in commemoration of the 500th anniversary of the poet's death.

Vasari's Picture of the *Four Scholars of the Renaissance*, together with his other literary and historical portraits in oil, which were in the possession of the late Mr. R. C. Christie, have been bequeathed by him to Owens College, Manchester.

Sir J. C. Robinson has resigned the appointment of Surveyor of the Royal Pictures, which he held under Queen Victoria for nearly twenty years.

Lord Balfour of Burleigh has officially intimated that owing to the State mourning, the King cannot open the Glasgow Exhibition in May, as arranged, and that the Duchess of Fife is to take His Majesty's place.

Sir Edmund Antrobus, Bart., is taking energetic measures to secure the preservation of Stonehenge, of which he is the proprietor. The tracks of carriages, which have hitherto been allowed to drive freely over the downs, have been barricaded. The public roads, one which passes from Durrington to Wilsford through the ruins, have, however, been left open. Notice-boards have been erected threatening to prosecute trespassers or any one damaging the property in any way, and a police officer patrols around the stones.

The Cambridge University Library Syndicate have received from the Egypt Exploration Fund a donation to the library of Greek papyri from the sites of Oxyrhynchus and the Fayûm. The pieces have been arranged according to their sizes and placed between glass. They are now available for study, and specimens are exhibited in one of the show-cases in Cockerell's building.

The Grand Palais of the last International Exhibition in the Champs-Elysées has been utilised for the display of works by French women artists. The excellent exhibition contains 1,000 pictures and 40 sculptures.

Mr. G. W. Johnston, R.S.A., died at Edinburgh last Saturday. He is chiefly known for his landscapes of Scotland. Early in his career he painted many scenes from the Trossachs and afterwards from the Borderland. Perhaps his most popular work was *Where the Burnie runs into the Sea.*

The Court of Appeal at Rome annulled last Monday the sentence of the tribunal which ordered Prince Chigi to pay a fine of 315,000 lire for selling to an American a valuable work by Botticelli, substituting a fine of 200 lire only.

The Pope has decided upon an international competition for the production of a book illustrating the two Encyclicals on Christian Democracy. A prize of 20,000 francs is offered for the best series of illustrations, and 10,000 francs for the second.

The London County Council are going to expend a sum of 12,500*l.* on the work of laying out the new open space in the Putney Bridge Road, to be known as Wandsworth Park. The estimate includes 4,500*l.* for the provision of camp-shedding along the river front.

Offices and Other Premises in Ely Place, Holborn Circus, containing an area of nearly 15,000 feet, producing a gross rental of 1,969*l.*, were sold for 36,500*l.* at the Mart last week.

Two Works by the late Sir John Millais were put up for sale at Christie's last week. One entitled *No*, a three-quarter figure of a girl reading a letter, which was exhibited at the Academy in 1875, was sold for 1,400 guineas. The other, a portrait of Mrs. H. Stanley, brought 1,470 guineas.

A Collection of Roman pottery, containing about forty pieces, has been discovered near the lodge of Walmer Castle.

The Art Loan Exhibition, which will be opened at the Guildhall Gallery in April, will be confined to Spanish art. Already considerable progress has been made in the formation of the collection, but owing to the difficulties experienced in obtaining the examples desired from Spain and to the fact that Mr. A. G. Temple, the director, is unable to leave London at the present time, the library committee of the Corporation have delegated Mr. E. M. Borrajo, the sub-librarian at the Guildhall, to proceed to Madrid without delay.

The Dean of Lichfield announces that the fabric of the cathedral is now in substantial repair throughout; all the statuary and ornamental work destroyed by the Parliamentarians during the siege has been renewed. No niche, either within or without, that was ever filled, will be any longer vacant. Since 1892 there has been a very large outlay to secure these results, viz. :—Fabric, 15,000*l.*; statuary, other sculpture and ornamental work, 4,000*l.*; stained glass, 4,400*l.* The famous MS. of St. Chad's Gospel, hitherto unseen in the cathedral library, has been placed in a glass case in the cathedral. It consists of an imperfect manuscript, containing the Gospels of St. Matthew and St. Mark complete, and the Gospel of St. Luke down to chapter iii. 9, in Latin, written about A.D. 700, in mixed uncial and minuscule characters of Irish type, on 110 leaves of thick vellum, with twenty lines to a page.

An Influential Committee have issued an appeal with the object of raising 150,000*l.* in celebration of the jubilee of Owens College, Manchester. Among the objects the promoters have in view is the establishment of a new chair of architecture.

The Society of Engineers will hold its next meeting on Monday, March 4, at the Royal United Service Institution, Whitehall, when a paper will be read, entitled "Notes on Certain Details of Drainage Construction," by Mr. Gerard J. G. Jensen.

The Sixth Ordinary Meeting of the Liverpool Architectural Society will be held at the Law Library, 41 Castle Street, Liverpool, on Monday next, March 4, at 6 P.M., when a paper will be read by Professor Beresford Pite on "The Architectural Treatment of Stonework."

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OF THE
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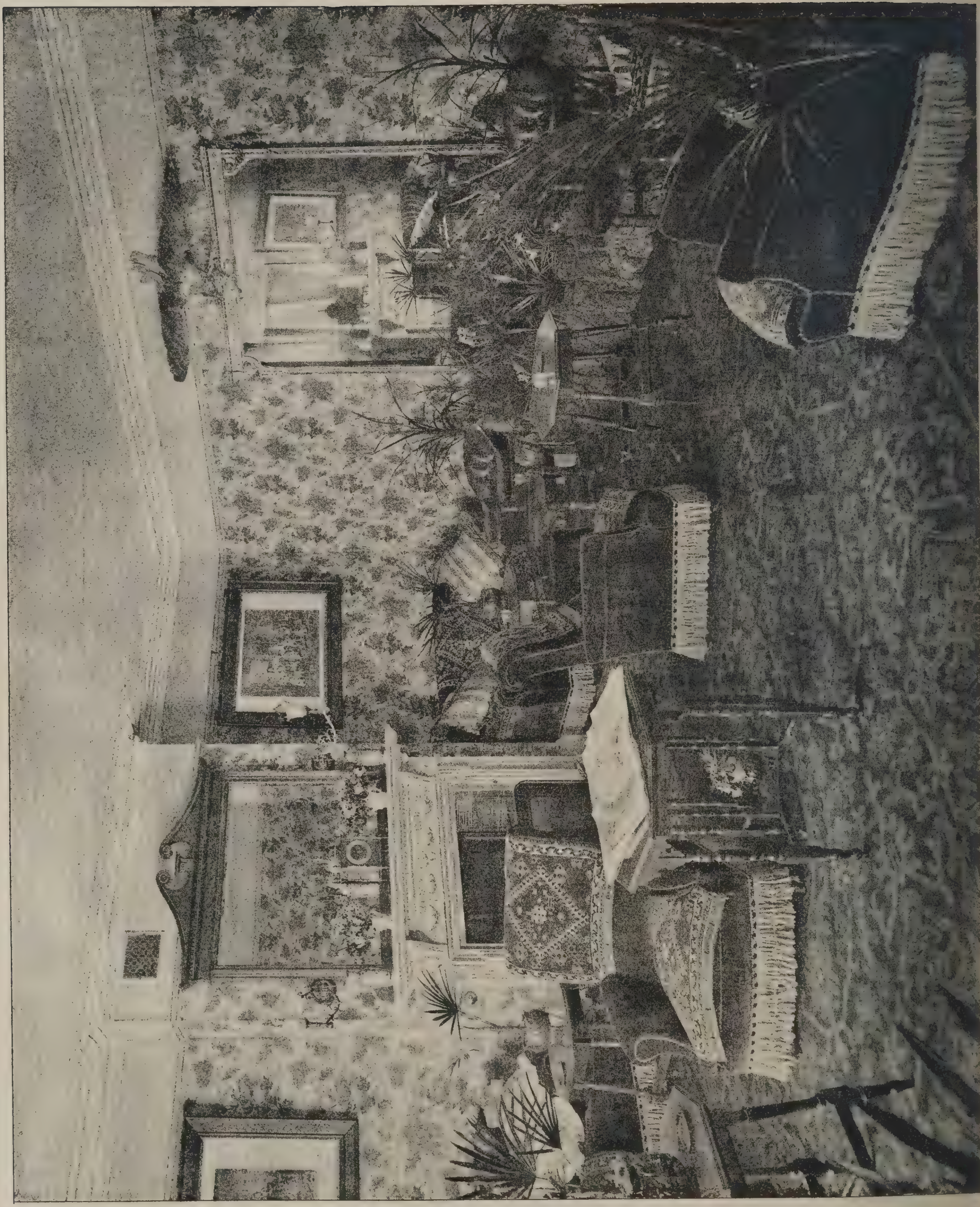
The Architect, Mar 1st 1901.



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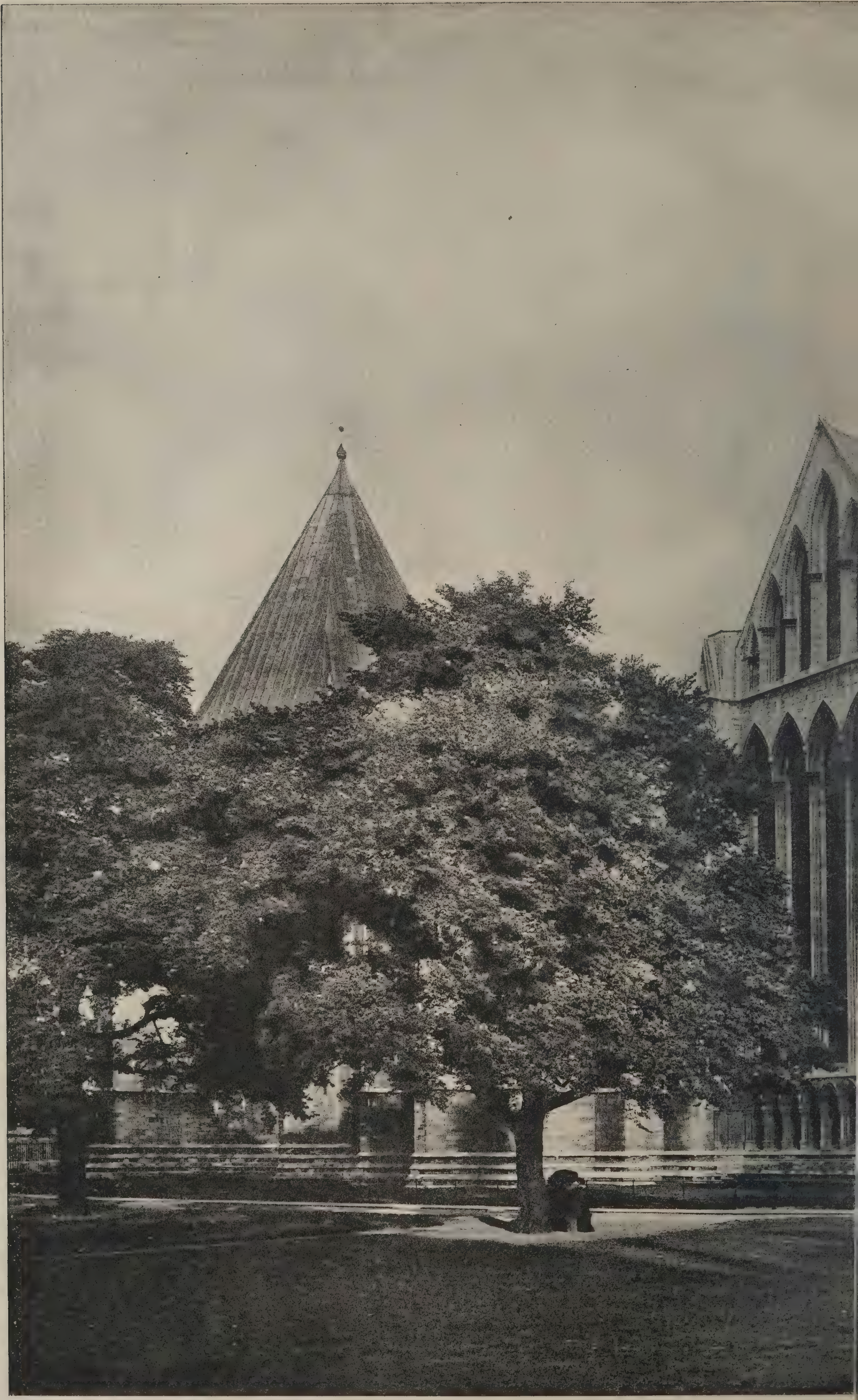
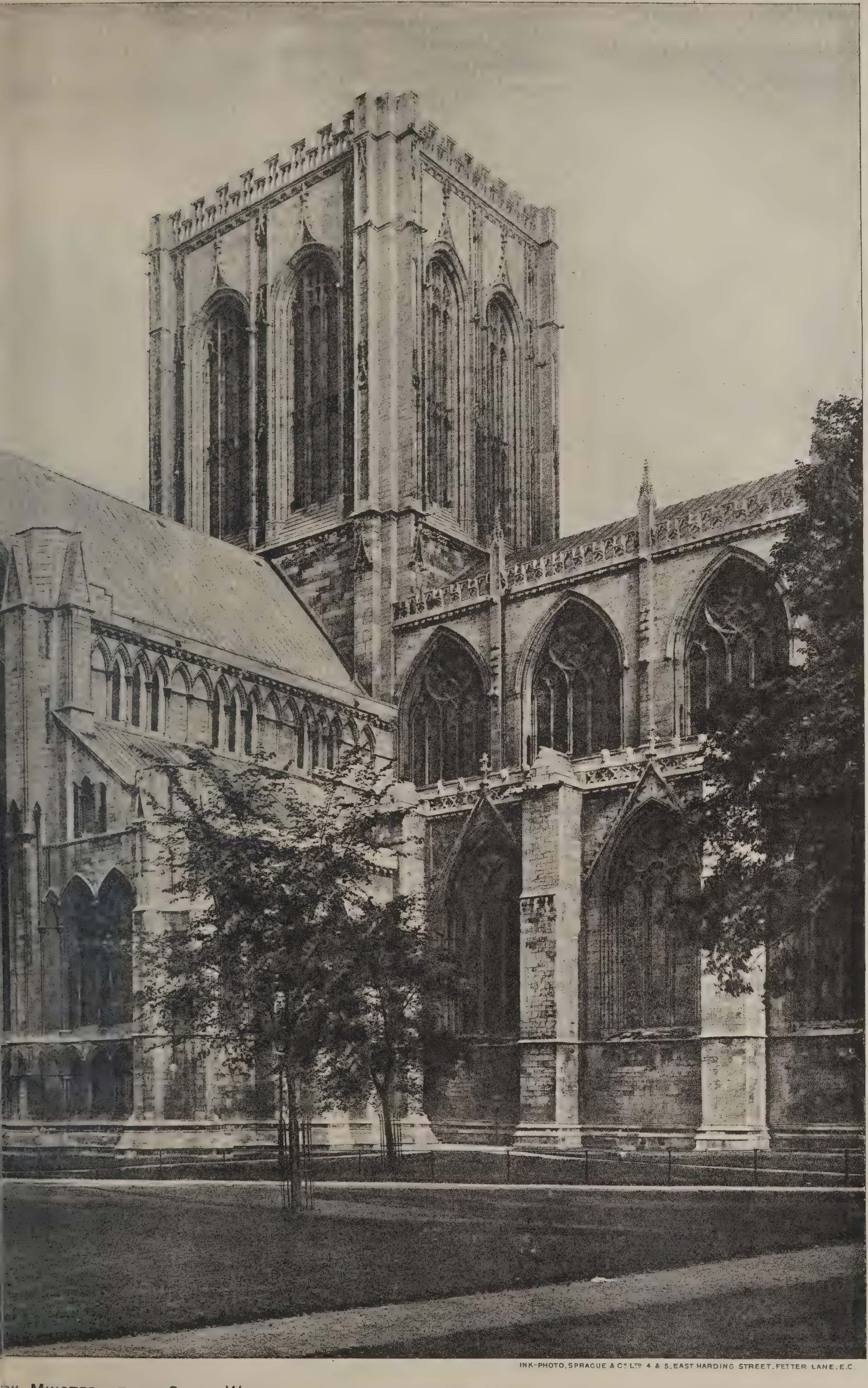


CATHEDRAL SERIES, No. 321

Mar 1st 1901.



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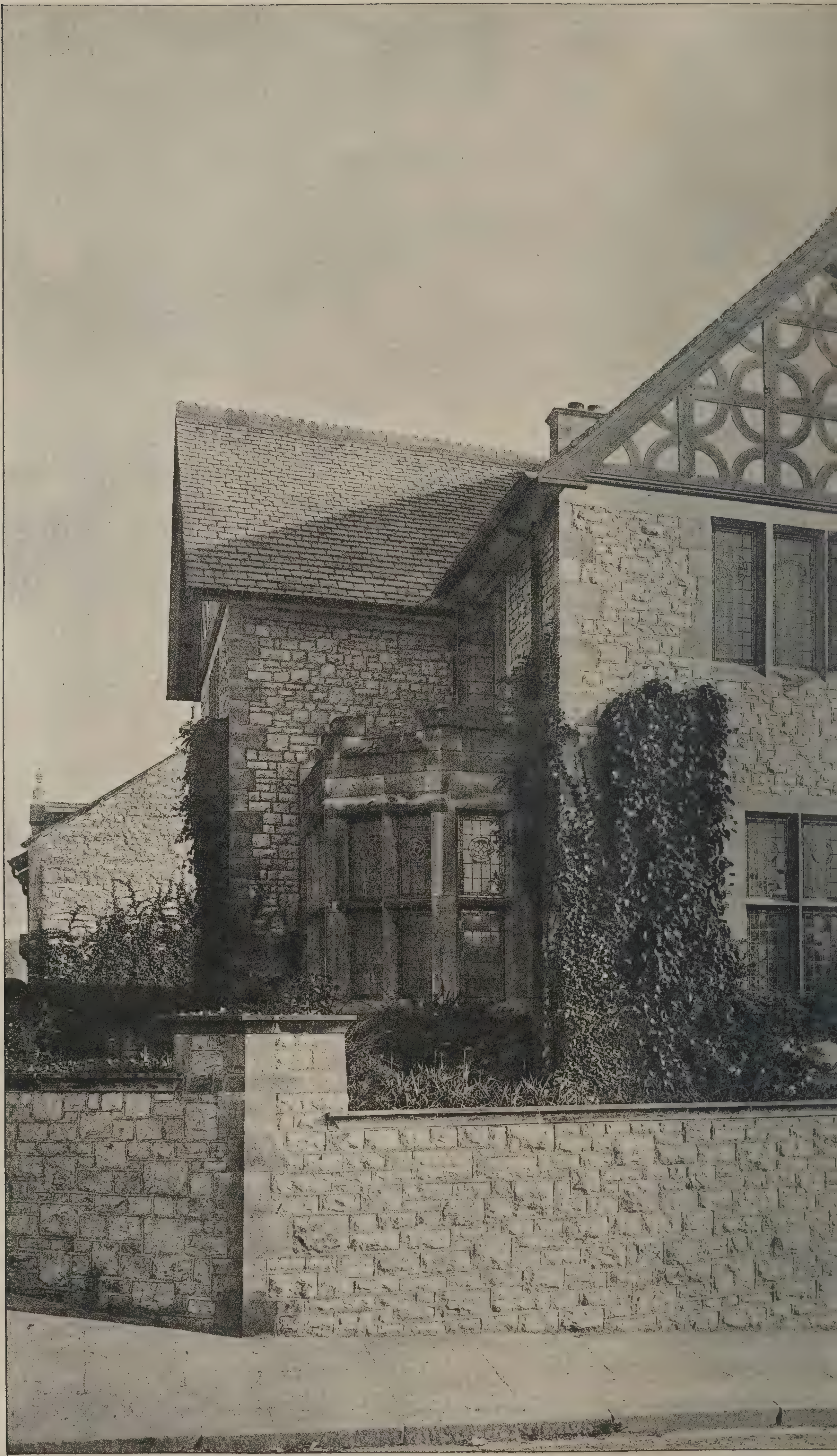

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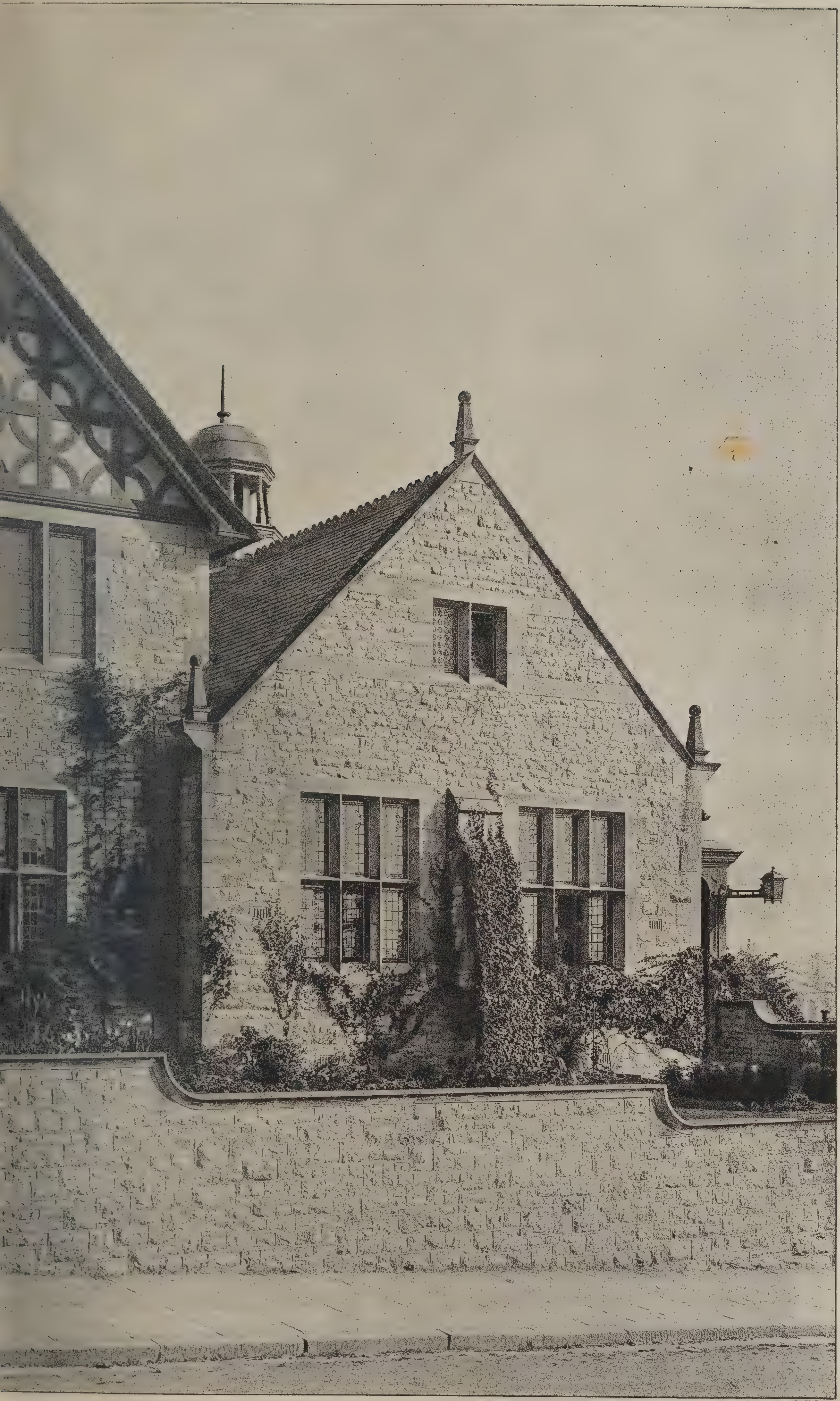

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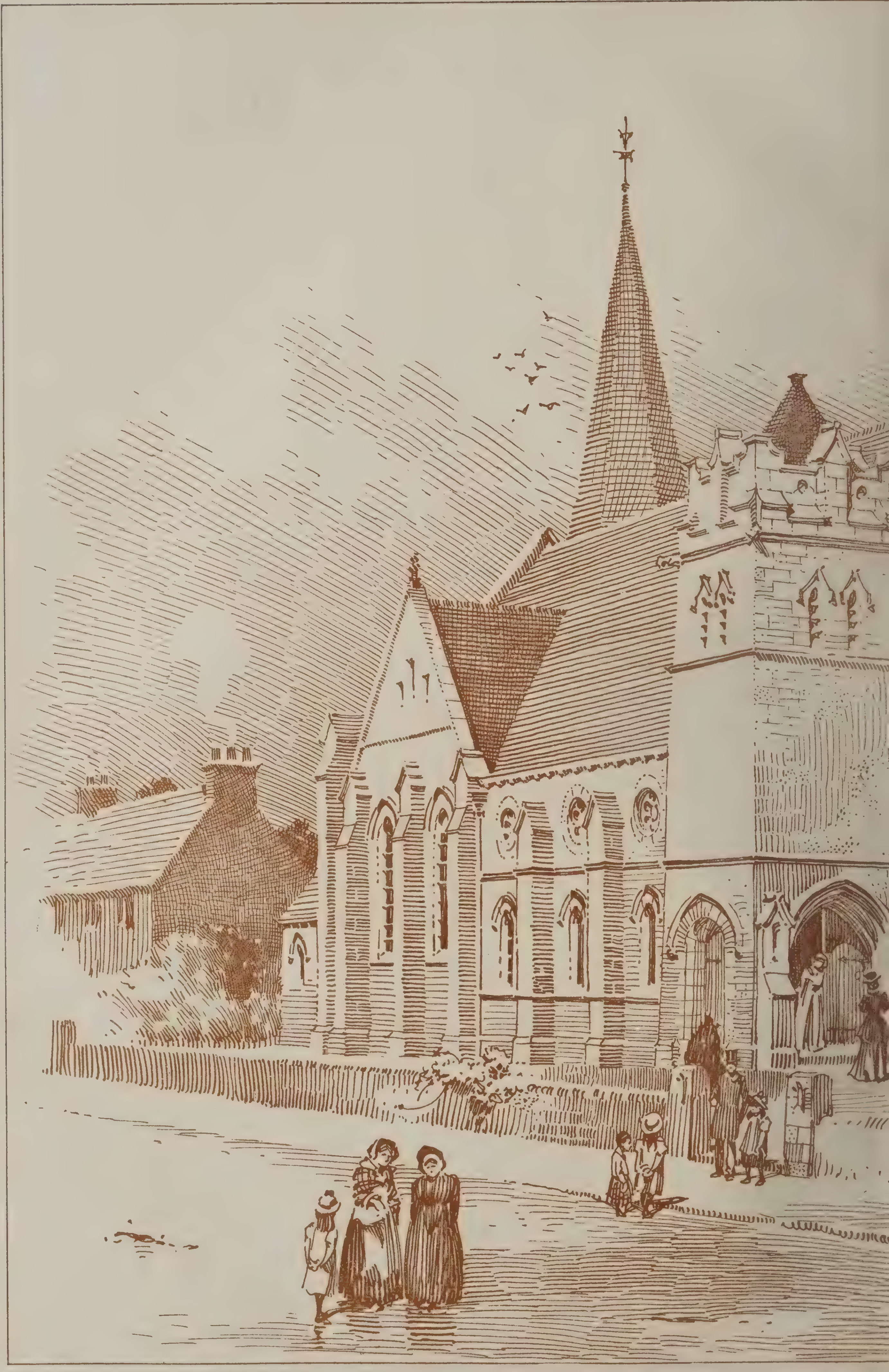

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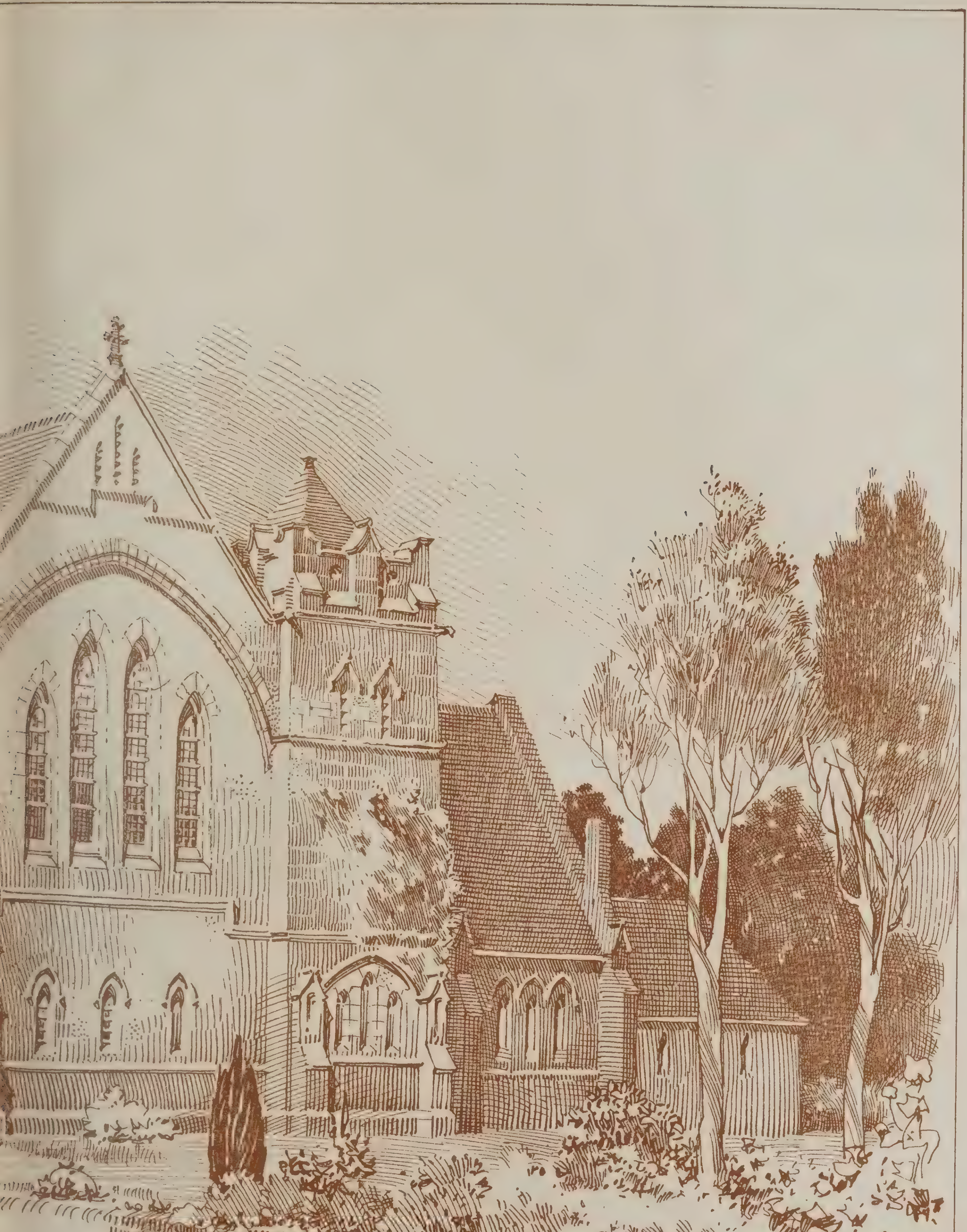

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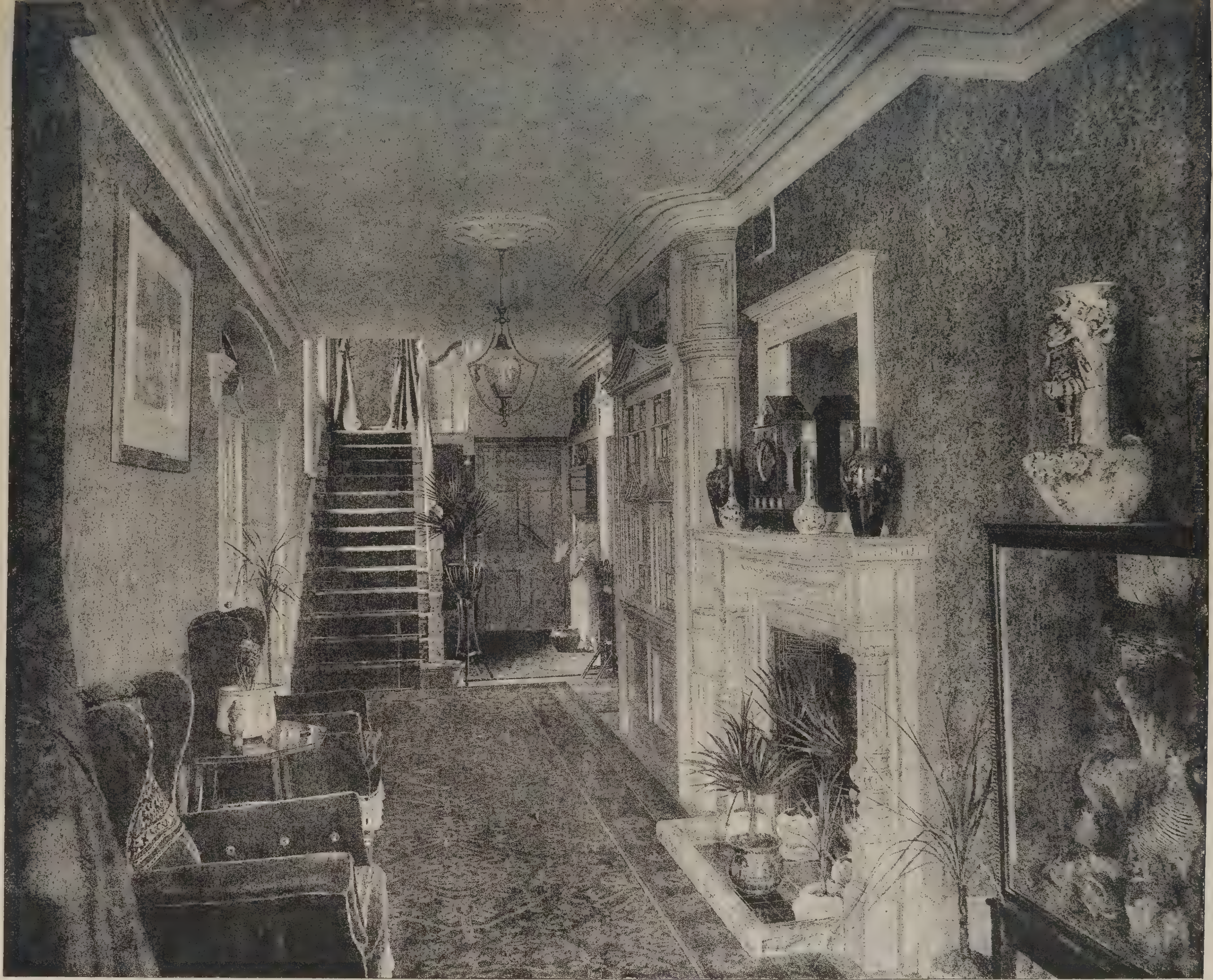

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THE STAIRCASE HALL: MARLBOROUGH HOTEL, SOUTHWOLD.

ARTHUR PELLS, F.S.I., Architect.

The Architect.

THE WEEK.

The committee appointed by the King to consider the character of the national memorial to the late Queen have concluded that it should be of a personal and monumental character. The next question was, on what site should so important a memorial be erected. The committee have arrived at the second conclusion that it is to be erected in the neighbourhood of the Abbey and Palace of Westminster or of Buckingham Palace; the memorial to include as its most prominent feature a statue of the Queen. The appointment has been arranged of a sub-committee to consider the means which should be employed to carry this recommendation into effect.

The prospect of obtaining the surrender of the Celtic gold ornaments by the Trustees of the British Museum cannot be called encouraging by the Irish members. The question was asked in the House of Commons a few nights ago whether the Government intended to carry out their promise that the right of the British Museum to retain the ornaments was to be tested in a court of law. The answer given by Mr. Balfour reveals the uncertainty which surrounds the law of treasure trove. In August last the then Chief Secretary said it had recently been ascertained that the right to possession was governed by a grant of James I., confirmed by charter of Charles II. But since that time doubts have arisen whether the Crown had any right to press a claim against the British Museum. In consequence of those doubts other complications arrived, and it would not be seemly at the present time to put the Crown into the position of a litigant. It has, therefore, been decided to abandon, for a time at least, bringing the case into the Law Courts. The arrangement corresponds with what was recommended in this journal when the dispute arose. The Trustees of the British Museum were within their rights in purchasing the ornaments, and in retaining them in spite of all official pressure.

The Duc d'Aumale was so princely a benefactor to the French Institut it is no wonder there is a desire to make some difference between his bust and those of other Academicians placed in the elliptic hall, which was once a chapel. Marble busts of the Duc and of Pasteur were received by the authorities at the same time. The latter was at once put in the conference-room of the French Academy. But the bust of the Duc d'Aumale, which is a replica of one by Paul Dubois at Chantilly, was assigned by the committee of the Institut a position under the cupola between two columns. M. Moyaux, of the Académie des Beaux-Arts, who is their architect, is preparing a design for the "setting." Below the bust will be sculptured the family coat-of-arms, with an inscription which will consist of the principal clauses in the Duc's will relating to the donation of the château of Chantilly to the Academy.

In the course of the speech on the system of administration at the War Office which was delivered in the House of Lords on Monday, Lord Wolseley drew an illustration from his recent experience of building. He said:—"I have lately been engaged in converting an old farmhouse into a little country residence. My first step was to call in an architect, an expert. I told him what I wanted, and having done so, I left the expert to look after the builder and his men. Under our Constitution the Secretary of State, as the representative of the Cabinet, used to stand to the Commander-in-Chief in much the same position as I did to the architect. The Secretary of State acted as the owner, the Commander-in-Chief was the expert. But mark the difference of procedure. Instead of dealing with one expert, the Secretary of State asks the opinion and advice of every one of his foremen without the knowledge of the architect, much less consulting him. Had I followed this system, I wonder what sort of a house I should have had? Very possibly the staircase would have been forgotten. Some of the foremen, let us say the carpenter foreman, in his anxiety to make perfect his own particular job in which his interest was absorbed, and knowing little or nothing of the general plan of the whole building, might have so impressed me with the importance of his own special share in the operation, that the drains might have been overlooked, or some other necessity might have been omitted that would have left the house uninhabitable." Whether the incident was entirely applicable to what takes place in the War Department it is outside our province to determine. Lord Wolseley would have found that the official system is not, however, entirely unknown among the clients of architects. There are gentlemen who regard it as a duty to themselves to act as amateur clerks of works, and who interrogate foremen and workmen about the quality of the materials employed and the wisdom of the methods proposed by the architect. The practice never leads to any good result, and it should be abandoned by clients in their own interest.

The project of a monumental chapel which could be connected with Westminster Abbey has been revived in a letter by Mr. Shaw-Lefevre to the *Times*. It was first proposed in 1887, and the late Mr. J. L. Pearson, R.A., made a design showing a building which grouped harmoniously with the Abbey and chapter-house. Her late Majesty, it appears, was favourable to the scheme, but thought it would be more appropriate as a memorial to her death than to her jubilee. Afterwards Mr. Yeates Thompson offered 40,000*l.* towards the erection of two aisles of the design, provided the Government would remove all the old houses in Poets' Corner and in Old Palace Yard up to No. 5. Many alterations have taken place, and the Westminster Improvement Scheme will add to them. Mr. Shaw-Lefevre therefore believes it is now possible to revert to the original scheme, and to erect a monumental chapel such as was then proposed in memory of the Queen. "In the centre of it there might be erected a monument to the Queen and the late Prince Consort, perhaps a replica of the beautiful monument in the Mausoleum of Frogmore, which is not accessible to the public. The chapel would afford space through a long future for the monuments of those whom the nation may desire to honour, and also for sepultures in those rare cases where the voice of the nation demands them." The estimated cost of erecting a building such as Mr. Pearson proposed would be from 150,000*l.* to 200,000*l.* The decoration of the interior would also be expensive, but could be spread over many years. The removal of the two houses Nos. 5 and 6 in Old Palace Yard would cost from 50,000*l.* to 60,000*l.* Mr. Shaw-Lefevre adds:—"I have the authority of the Dean of Westminster for saying that he feels certain from communications with her late Majesty that the project would have been approved by the Queen herself. It would, indeed, be very fitting that her name should be permanently associated with the Abbey where she was crowned, and where she returned thanks in person on the fiftieth anniversary of her accession."

It is proposed to erect a new technical school in Bolton. In order to acquire the latest information on the subject a deputation representing the Corporation and the School Board visited various technical schools in England and on the Continent. A large volume has been issued which contains a record of the experience of the deputation. The recommendation of the sub-committee is that a new building should be erected with rooms or halls capable of seating 1,000, 400 and 200 persons respectively. There should be a spacious entrance-hall with wide and well-lighted staircases. If a tower should be thought a necessary part of the design it should be utilised as an astronomical observatory. It is suggested also that the main building should be of Ruabon, Burnley or Accrington brick, with terra-cotta facings, and should contain basement, ground, first, second and third floors. The workshops should be one storey high, and placed behind. The sub-committee is of opinion that an architect should be appointed who has had previous experience in work of this kind. The minimum cost will be, it is said, 60,000*l.*, but if future requirements are anticipated the amount is likely to be 80,000*l.* This is not excessive when it is taken into account that the school is to make provision for spinning, weaving, engineering, manual instruction, women's work, commercial instruction, art, general technology, general science, an industrial museum, technical library, administration, &c.

DUALITY OF THE ARCHITECT'S OFFICE.

WE suppose there are architects who will find much satisfaction in the decision of the Court of Appeal on the two cases of which we published reports last week. What was said by the majority of the Court may appear to be an exaltation of the architect's office and a recognition of its immunity from the consequences of error which in other varieties of business must be accepted. It seems like a return to the old days when the clergy were not allowed to be tried for offences against the law unless in special courts with church dignitaries as judges. The assumption of privileges of that kind is dangerous in England, and by all wise architects the judgment which was delivered in the Court of Appeal will not be considered as entirely advantageous to the profession.

For what were the circumstances? In one case an architect was employed to prepare plans for houses, to superintend the work, and to measure it up when completed. The houses must have been small, for their total cost was 622*l.* 14*s.* The plaintiff claimed for fees 4 per cent. on the amount. Instead of paying him, the building owner counterclaimed for loss arising from incorrect measurement, through which the amount of the final certificate was larger than the amount due. The architect thereupon sought to recover his fees in the Holmfirth County Court. The judge decided in favour of the plaintiff, but he also decided in favour of the defendant, and ordered the amount of damages caused by the inaccuracies in measuring to be assessed. There was an appeal by the defendant to the Divisional Court. Their lordships, Mr. Justice CHANNELL and Mr. Justice BUCKNILL, concluded that as the architect was by one of the clauses in the contract placed in a judicial position between the building owner and the contractor, he was not liable for negligence. Judgment for the plaintiff was therefore entered on the counterclaim. The case was next carried by the defendant before the Court of Appeal. In the second case there was only one building in question, and the amount of the tender was 1,790*l.* That sum was paid to the builder together with the cost of extras as certified by the architect. The building owner alleged that the builder's accounts were not properly examined, and that he had paid as extras for items which should have been considered as included in the original contract. The case was tried by Mr. Justice MATHEW without a jury. He also was of opinion that as the architect was an arbitrator an action for negligence could not lie against him.

Their Lordships in the Court of Appeal resolved to hear the two cases before giving judgment, as there was a common principle in both. That turned mainly on the interpretation to be given to the arbitration clause or clauses. Both architects employed the form of agreement and conditions for contracts issued by the Royal Institute of British Architects and approved by the Central Association of Master Builders. As is generally known, by one clause it is provided that in case of any question, dispute, or difference arising, it is to be referred to the arbitration and final decision of a Fellow of the Institute. In one of the deeds, instead of the appointment of arbitrator being left to the President of the Institute, it was stated that the question, dispute, or difference was to be left to the arbitration and final decision of a particular architect.

It was boldly contended in one case by counsel that the plaintiff was not an arbitrator, because it was agreed that somebody else—a Fellow of the Institute or other practitioner—was to be nominated to the office. It was evident the architect was not allowed to settle a dispute if one arose, and therefore could not be regarded as an arbitrator. The case relied on was LLOYD BROS. *v.* MILWARD, which does not appear to be often cited, although a special report of it is to be found in Mr. HUDSON's work on "Building Contracts." In that case the plaintiffs, who were builders, sought to recover the balance of the price for work done in rebuilding certain houses. The architect had given a final certificate, but as prior to its issue disputes had arisen between the builders and defendant as to whether the works had been duly completed, it was contended that the certificate was null and void. The contract form was that agreed to by the Institute of Architects and the Master Builders' Association. In the lower Court judgment was given for plaintiffs and an appeal was brought. Lord ESHER, who was Master of the Rolls, was of opinion that the architect had no power to give the certificate on which the plaintiffs relied because a dispute had arisen of which the architect was aware, and it should have been settled by an arbitrator. Lord Justice LOPES agreed, saying, "The certificate is final, if there are no disputes; if there are, the award of the referee is to take its place and be substituted for it. In the latter case, the award of the referee is to be equivalent to the certificate of the architect." Lord Justice RIGBY was, if possible, more emphatic, for according to him, "The architect has nothing to do with disputes on final completion of the works. In the present case disputes had arisen, and were known to the architect and opposite party, and therefore the jurisdiction of the architect to make a final certificate was thereby ousted, and the dispute fell to be determined by the special referee. The final certificate actually given was, under the circumstances, *ultra vires*, and of no effect."

In his judgment of the two cases we have more immediately under consideration the present Master of the Rolls said that the clause which stated that a certificate of the architect showing the final balance due or payable to a contractor was to be taken as conclusive evidence of the works having been duly completed, thus showing that the architect's duty was not confined to looking after the interests of his client. When he undertook to bring out a final certificate he undertook a duty to the builder as well as to the building owner, and was to hold the balance fairly between them. It might be an arbitration to settle what might otherwise be a matter of dispute. The architect held, therefore, the office of an arbitrator. Lord Justice COLLINS said he believed that whenever a person was bound to exercise judgment between others, and which involved professional skill, he was an arbitrator or quasi-arbitrator. There is no doubt that one class of judges are of that opinion, and for reasons besides those which relate to disputes over buildings. It might even be said that a majority of their Lordships would be found to side with the Master of the Rolls and Lord Justice COLLINS.

But there are other judges who are less disposed to generalise, and who devote themselves mainly to the circumstances of the suits that come before them, without considering the multiform complications which can arise out of the simplest case. Lord Justice ROMER is one of the representatives. To his mind the architect is, above all things, an agent, and his principal duty is to the person who employs him and pays him. As agent he is liable for any negligence causing damage to his principal. When the architect therefore undertook to measure work and to certify its value, he, said his Lordship, incurred *prima facie* liability. He would, no doubt, escape if he could show that a complaint by his principal arose out of something done while exercising the office of arbitrator. But Lord Justice ROMER did not believe that if a building owner and contractor had agreed that the giving by an architect of a certificate, in case there was no prior dispute, that was to be considered as arbitration. If a dispute really arose another architect was to be called in as arbitrator. His Lordship judged that any other theory would cause injustice in a case where the architect was guilty of negligence. But as his Lordship was in the minority his contention was not adopted.

In all but a very few special law cases what is sought is victory, and it may be allowed that lawyers themselves are not indisposed to conquer by means of an argument which is founded on a mere non-compliance with form or procedure, and that the main issue is disregarded. It is well to have it recognised that an architect has to hold the scales of justice in contracts, but there is no necessity for his eyes to be bandaged in such a way as to prevent him from performing his duties or carrying them out in a careful manner. It may be law to consider the architect is not responsible for neglect, but it is not equity. The latest decision on the subject will be thought by many to be an encouragement to incompetence hereafter. Nor will the judgment be without its effect on clients. Their solicitors will be aware of the risks which are incurred if the clause about the granting of the final certificate is adopted in the form which is now common, and they will feel it to be their duty to take measures to minimise the hazards. The gain to the two individuals who succeeded last week may be approved by some members of the profession, but it is only a trifling consideration compared with the disadvantage which will arise if the public, from reading the reports, should believe that as far as regards neglect of duties an architect is not answerable for his acts in the eyes of the judges, and with a final certificate as an ægis can defy his client when he claims compensation for any unnecessary expenditure.

THE ELGIN MARBLES IN CERIGO WATERS.

FROM various statements which have appeared in the journals during the last couple of weeks, it is evident that many people in this country imagine the sculpture recently found at Cerigo is a part of the collection acquired by Lord Elgin. It would be well for England if the belief could be sustained, for then we might lay claim to the bronze *Hermes*, the *Rhodian Wrestler*, the bronze statuettes of athletes and the other examples of Greek art with which Athens is to be enriched. There is no doubt a vessel belonging to Lord Elgin was wrecked off the coast of Cerigo, but its cargo, which consisted of sculpture, was of a different character to what has been lately brought to light. The supposition, however, is evidence that the history of the Elgin Marbles is not well known in England, and it will therefore not be out of place to narrate some of the circumstances connected with the acquisition of the treasures, and the submerging of a part of them.

In the year 1799 the Earl of Elgin was appointed ambassador at Constantinople. Mr. Harrison, an architect who was engaged on building operations for his lordship in Scotland, took occasion to explain how inadequate was the knowledge among artists concerning the remains of ancient art in Athens. Stuart and Revett's plates were excellent, but insufficient. He suggested that the opportunity should be utilised for obtaining a collection of casts in which architectural details would be comprised as well as examples of sculptured ornament. Lord Elgin realised the value of the idea. The project he believed was of national importance, and he brought it under the notice of Pitt, Dundas and Grenville, in the expectation that it would be taken up by the Government. Ministers declined, partly from a belief that such a scheme could never be realised. His lordship next applied to some artists, and in particular to a Mr. Turner. It was stipulated that the drawings and casts should belong to Lord Elgin. But Turner wished to have a share in the works. Moreover, he demanded a salary of between 700*l.* and 800*l.*, independent of expenses, and that outlay Lord Elgin was not prepared to meet. The undertaking was consequently abandoned.

On his way to Constantinople the Earl visited Sicily, and at Palermo he met the ambassador, Sir William Hamilton, who was known to be a lover of ancient art and who had gathered together many Greek vases and other antiquities. He expressed approval of the project of obtaining casts and drawings of remains in Athens, and in order to aid in the undertaking he obtained permission from the King of Naples for the employment of the painter Lusieri, who had gained the reputation of being skilled in such work. In addition, two architects named Balestra and Ittar, two modellers, and a Calmuck who was excellent at drawing antique figures. Lusieri had to complete some work, and for a time remained in Sicily, but the four assistants arrived at Constantinople in May 1800. Owing to the presence of the French in Egypt, from whence they might invade the Sultan's dominions, there were apprehensions of danger for travellers to Athens. After a few months' delay the men were able, however, to reach the ancient city in August, and Lusieri joined them.

The artists were at first impeded by the Turkish officials. They were refused admission to any part of the Acropolis, and they were compelled to employ themselves for a time with buildings in the lower town. Then they were allowed access to the Acropolis on payment of five guineas a day. The presence of Lord Elgin at Constantinople gradually produced an improvement in the relations between Turkey and Great Britain. The obstacles to the studies of his lordship's artists were consequently relaxed. The erection of scaffolding and the undertaking of excavations were permitted. At first, as we have said, what was contemplated was the preparation of casts and the representation of ancient remains. But after much trouble and patient solicitation the Ministers of the Porte were prevailed on to grant authority to Lord Elgin to remove, as well as draw and model. The document was of much importance, and its meaning was contested in England, but Lord Elgin looked on it as little more than permission to make the best bargain he could with the local authorities. M. de Choiseul, the French ambassador, was able to secure similar privileges.

Lord Elgin's chaplain, the Rev. P. Hunt, was the principal agent in the operations. He very shrewdly endeavoured to test how far the vaivode of Athens understood the terms of the firmaun. According to Mr. Hunt's account, that potentate "seemed disposed to gratify any wish of mine with respect to the pursuits of Lord Elgin's artists, in consequence of which I asked him permission to detach from the Parthenon the most perfect, and, as it appeared to me, the most beautiful metope. I obtained that permission and acted upon it immediately. I had one carefully packed and put on board a Ragusan ship, which was under my orders, from which it was transferred to a frigate and sent to England." The facility with which this had been obtained induced Lord Elgin to apply for permission to lower other groups of sculpture from the Parthenon, which he did to a considerable extent, not only at the Parthenon, but at other edifices in the Acropolis.

Whether it was proper to remove the sculpture we need not discuss. But there is no room for doubting whether the Turkish authorities understood what was contemplated, and gave their assistance to the operations. The removal was not performed secretly. Lord Elgin said, "The thing was done publicly, before the whole world. I employed three or four hundred people a day, and all the local authorities were concerned in it, as well as the Turkish Government." It is also necessary to keep in mind that the Parthenon and other buildings were known to the Turks as the Temples of the Idols, and it was therefore thought a religious act to deface and demolish the figures. Sculpture was mixed promiscuously with common stones in modern structures of Athens. The French ambassador imitated to some extent Lord Elgin, and Bonaparte sent a corvette to remove the sculpture. The vessel was, however, seized by an English cruiser, and Lord Elgin used his influence with Nelson and others to have the cases restored to Choiseul.

It is well to remember, especially in connection with the recent discoveries at Cerigo, that Lord Elgin's intentions were mainly to aid in the improvement of architecture. His immediate predecessors, Stuart and Revett, who at great risk to themselves measured the ruins at Athens, were inspired by a like spirit. This tendency towards architecture will be found expressed in one of his lordship's statements, in which he recognises that the attention he gave to sculpture was owing to its being an auxiliary to architecture, as he said:—"My whole plan was to measure and draw everything that remained and could be traced of architecture, to model the peculiar features of architecture. I brought home a piece of each description of column, for instance, and capitals and decorations of every description; friezes and moulds and, in some instances, original specimens; and the architects not only went over the measurements that had been before traced, but by removing the foundations were enabled to extend them and to open the way to further inquiries, which have been attended since with considerable success." In fact, there was only architectural sculpture available to be carried off by the possessor of a firmaun at the beginning of the nineteenth century. Long before every work of the statuary that was transportable had been removed by the Romans, and if the Parthenon sculpture remained it was owing to the work being recognised as a part of the fabric. It was difficult to take down, difficult to carry across the seas, and difficult to utilise. We ought also to recollect that when the Elgin Marbles were first seen in England they were, owing to their architectural character, unprized by many who were accepted as judges. Payne Knight, for instance, declared that not one of the figures was of equal value to the *Laocoon* or the *Apollo Belvedere*, and as for the beautiful draped figures of goddesses, he described them as having little value beyond what was derived from their local interest as part of the temple. It will, therefore, be concluded from what was said by amateurs, no less than from the detailed inventories made by Lord Elgin, that the collection derived from Athens mainly consisted of architectural sculpture. There were some heads of statues, vases, inscriptions, ex-votos, an antique lyre, two flutes and a bronze urn, but they were only superfluous objects to which no importance was attached.

It is easy to understand the difficulty of removing such large and weighty blocks of marble as we can now see in the British Museum through a country where vehicles with wheels were not to be obtained, and where the road from Athens to the sea was a mere track. At the time men-of-war were insufficient in number for the contest with France, and moreover Lord Elgin's venture was not supposed to be in any way national. He acknowledged having received friendly assistance from officers commanding the king's ships. But he was obliged to employ, besides two vessels of his own, several Greek ships.

It is generally understood that Nelson recommended keeping close to the coast of Cerigo. One of Lord Elgin's vessels was an English copper-bottomed yacht called *The Mentor*. The cargo consisted of cases containing parts of the frieze and metopes of the Parthenon. The vessel foundered in ten-fathom water. Three unavailing attempts were made to weigh up *The Mentor* bodily. Then divers were employed, and their operations were not completed until the third year after the shipwreck. Lord Elgin distinctly affirmed in one of his reports that "all the cases were finally recovered, and none of the contents in any way damaged." These words, which were written on March 13, 1816, should be enough to convince the most sceptical or the most imaginative that the bronze and marble statues which have been raised from the sea must have formed part of much earlier spoils. They also confirm our theory that Lord Elgin had wished to enrich England with sculpture which once adorned buildings, and unless he was satisfied with that class of art he must have gone away empty-handed. The cases carried by *The Mentor* were forwarded as they were obtained by the consul at Cerigo, some to Smyrna and some to Malta, on their way to England. Lord Elgin estimated his loss by the wreck of *The Mentor* and the raising of the cargo at 5,000*l.*

His lordship's expenditure, including interest, in connection with the marble was estimated by him at 74,240*l.* All he received from Parliament was 35,000*l.* It will therefore be evident that Lord Elgin did not profit by his venture, and it was wrong to represent him as inspired by mercenary considerations.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday last, Mr. W. H. Seth-Smith, president, in the chair.

Messrs. D. Hill and A. Gilbert Scott were duly elected members.

The President gave notice that Mr. A. H. Hart's lectures on "Colour" would commence on March 13.

Mr. E. W. M. Wonnacott read the following paper on—

The Paris Exhibition of 1900.

Historical.

Every eleventh year since 1855 France has invited the nations to come and vie with her in the great industrial shows she initiated. The Exhibition of last year was long foreseen, but it nevertheless was decided on in a hurry, for Berlin had intended to close the century with a magnificent universal exhibition there, but France, over-jealous of her next-door neighbour, sailed in a point nearer the wind, and bespoke the date mentioned.

It was left to M. Alfred Picard, inspector-general of roads and bridges, the official reporter of the 1889 show, to draft the preliminary ideas of the 1900 Exhibition. On the general lines laid down by him (which included for the first time the right bank of the river), a competition for the supply of ideas was initiated in which 108 competitors entered. Parliament voted a credit of 100,000 francs for the purpose. The competitors were at liberty by the conditions to raze everything within the selected boundaries, except the Palace of the Trocadéro and the Eiffel Tower. The majority of the competitors favoured the opening up of a new avenue from the Champs-Elysées to the Invalides, which would entail the destruction of the Palais de l'Industrie, a relic of the 1855 Exhibition.

Then came the second competition in 1896 for the arrangement of the Exhibition buildings, M. Picard having decided on the knotty problem of how to provide, on almost the same site as regards size as the 1889 show, about triple the area for the 1900 one. The idea being already adopted of an avenue terminating in the Invalides, with a palace on each side of it next the Champs-Elysées, the jury selected nine schemes for the large palace and eight for the small. A final ballot brought out the name of M. Girault as architect for the Petit Palais, while for the Grand Palais were selected (1) M. Louvet, (2) MM. Deglane and Binet and (3) M. Thomas. Eventually most of these were associated together in the design and construction of the Grand Palais (except M. Binet, who received as consolation the commission to erect a monumental gateway at the principal entrance of the Exhibition) The architects who were placed second in the competition for the Petit Palais were commissioned to execute the architectural decorations of the new bridge, forming the connecting link between the Champs-Elysées and the Invalides. MM. Cassien-Bernard and Cousin, the architects referred to, were to work hand in hand with the engineers already appointed, MM. Resal and Alby.

Staff.

A word as to the staff—the architectural department which worked under the direction of M. Picard. This was housed in a fine red brick building or pavilion and offices on the Avenue la Bourdonnais.

Finance.

Perhaps a word or two on the financial aspect of a great exhibition may not be without value. In 1867 the State and town furnished a subvention of 12 million francs and a guarantee corporation had 6 millions more in hand, but was not called on to pay, there being a balance on the right side.

In 1878 the State, jointly with the town, executed the operation, and there was a deficit of 20 millions, but of this sum 10 millions went to pay for the Trocadéro.

But that of 1889 resulted quite otherwise, and the surplus of receipts over expenditure reached the respectable total of 8 million francs.

The 1900 Exhibition, of which the official accounts have been already published, results in a deficiency of over 2 million francs, but this applies to the official work only. There are in addition the unofficial shows also to consider. 670 projects were submitted in the preliminary competition, sixty of them retained for the final selection, which had to pay extortionate rents for their ground space, and were moreover over-capitalised, many of them closing their doors early in the summer. The total amount of capital raised for these unofficial shows was 46½ million francs, nearly 2,000,000*l.*

Works and Construction.

The wreckers (those wolves of the architects, as they have been called) and the navvies were looked after by a committee of hygiene. All the immense masses of earth that were moved, whether in foundations, road or tramway cuttings, were profusely sprinkled every day when work ceased with pulverised sulphate of iron 100 parts to quicklime 200 parts to every square metre. This precaution to us may seem absurd, but it must not be forgotten that Paris is a very insanitary city, and still abounds everywhere with hidden cesspools and middens. A strong staff of inspectors were told off for this purpose of special service sanitation.

Demolitions.

I have no data of the cost of demolishing the structures that formerly stood on the site of the late Exhibition, but I may mention that the old Palais de l'Industrie was removed for the sum of 200,000 francs, only the colossal group that crowned the structure, by Elias Robert, being preserved. The Dome Centrale on the Champ de Mars site, cost 20,000 francs to pull down, and the Pavilion of the Town of Paris, from the last Exhibition, 20,000 francs Besides these there were rased the Palaces of the Fine and Liberal Arts, but I have no items of cost. It is estimated that it would cost to remove the Galerie des Machines 1,000,000 francs if decided on.

Workyards.

The contractors' yards for heavy material were laid out in a most methodical manner, amply provided with tramways and railways, cranes, hoists and everything desirable to facilitate despatch; and despatch was the order of the day. The daily labour roll amounted to over 5,000 hands, in spite of the fact that everything that could be fitted together before arrival on the site was so done.

There were twenty-three of these workyards, each under an architect, in some cases under two architects.

Stone.

That most largely used was the calcaire grossier, a white freestone largely found in the Paris basis; from the quarries of

Château Landon, near Nemours (Seine-et-Marne), as was used for the Arc de Triomphe; also the stone from the Aisne and Oise Valleys, as the new Louvre; those of Charentenay and Courson (Yonne) as we see in the Hôtel de Ville. The ashlar work of the Petit Palais was a hard freestone from Coutarnoux (Yonne) up to the first band, and above that a freestone from Méry. In the Grand Palais, where there were about 40,000 tons (French)—17,000 cubic metres—used, the lower part was from Villebois, and was the only example I could trace of a quarry-worked stone. All the rest was cut and worked on the site, the freestone being from Euville, Lerouville (Meuse) and Larrys (Bourgogne) for the *socle*, and from Villers, Adam and Vic-sur-Aisne.

We also see pink mottled limestone from the Côte d'Or, or Burgundy, employed in decoration and pilasters, similar in appearance to our Devon limestones. Also grey granites from Calvados, white and golden yellow freestones from Poitevin sources and the valley of the Oise.

Stucco.

But the material most profusely used throughout the Exhibition for the temporary buildings was the stucco or "staff"* applied over the light wood or skeleton of the structures on fireproof lathing or wirework. As most of the buildings were temporary, they were executed almost wholly in this way. This "stuc" (the use of which we can readily trace back to the days of the Romans) was very largely used in the seventeenth and eighteenth centuries, and is now the universal material used by speculating builders in Paris for the vestibules, staircases, entrées, &c., and an old example can be seen by the curious in the Presidency of the Chamber of Deputies, where the stuc was coloured; the work was by Jules de Joly, then architect of the Palais Bourbon.

Ciment Armé.

Then there was the ciment armé, or concrete with steel cores, used in large masses, profusely used in nearly all the buildings, whether permanent or temporary, especially for staircases and landings and galleries of wide span. I shall touch on this later when dealing with the Petit Palais.

Steel.

But looking back over the century just passed, the material that has come most to the front is steel. At the opening of the nineteenth century iron construction was unknown except in the form of cast girders and occasional roof trusses, either wholly or partly in iron. But the succeeding years bring us by rapid strides through the demand for high and wide and fireproof buildings, and the commercial use of the steel process, past such landmarks as the Crystal Palace of 1851 and the Gare St. Lazare, in 1867 the elliptical exhibition building, in 1878 the machinery gallery, trusses without tie rods of 110 metres span, by the eminent engineer Dutert, outvieing our own St. Pancras station, in 1889 the Eiffel Tower, 300 metres high, and the far-famed Forth Bridge. In 1900 steel had become almost the universal material for the frame of structures, even if temporary. But specially to be noticed is that magnificent bridge, the Pont Alexandre III., the metal-work of which cost over two and three-quarter million francs. Over 50,000 tons of steel were used in the two fine art palaces alone.

An example from the statistics will show the great economy effected as the result of previous experience gained in the former exhibitions. In 1878 it cost nearly 5 fr. per cubic metre to erect the steelwork coverings; in 1889 this was reduced to 2·77 fr., while in the recent Exhibition I am assured the figure barely reached 2 fr. per metre cube.

Foundations in Bad Ground.

A singular process was employed in the marshy part of the Exhibition site, where the ground was soft and spongy—that was, mechanical compression, in which a steam pile-driver was first used to perforate the ground down to a hard bottom, then to enlarge the bottom of the hole thus formed, and finally to beat down and consolidate the concrete thrown in to form the foundation, a large concrete pile standing on a kind of mushroomed foot on the hard bottom. This avoided the necessity of removing large masses of poor soil, and gave at the same time a stable substructure for the subsequent erections.

Estimates.

A word on the system of estimates prepared by the architects for the builders. Instead of pricing a bill of quantities as with us, and the job going to the lowest tenderer, the architect or his surveyor gives in his estimate at a given figure. Invitations are then sent out to the contractors, and the game then is to find out who will give the greatest rebate below the already quoted price.

Design.

As regards the buildings collectively, one must regard this Exhibition as a spectacular achievement, an architectural fairyland; and one can overlook the faults of too exuberant or fantastic detail and similar things, bearing in mind that these productions were for a festal occasion, and festive they undoubtedly were; great was the variety of form and mass, extraordinary originality and vitality were displayed in the detail and decorations, while most vigorous was their execution. Picturesqueness was supplied by a row of foreign pavilions on the river bank, the Château d'Eau and the gardens of the Trocadéro and other parts of the Exhibition, while dignity was worshipped in the symmetry displayed in the vistas of the Champ de Mars and the Esplanade des Invalides. All this combination was entirely due to the genius of the French artists and their unique methods of training.

Plan, &c.

With the aid of a plan, or rather a map, of that portion of Paris lying on either bank of the Seine from the Pont de la Concorde down to the Pont d'Iéna, and even a little beyond, we find that the Exhibition was laid out on four main sites, two on each bank of the river, with connecting strips bordering immediately on the river itself; but these four sites fall into two groups, each of which consists of a piece of ground on one side of the river connected with another similar plot on the other by means of a bridge, which forms the axis of each group.

The area of the site covered is much more than in previous exhibitions, and amounts to 112 hectares, including the overflow site in the forest of Vincennes allotted to the railway and heavy machinery exhibits.

Description of the Plan.—Champs-Elysées Portion.

At the main entrance, overlooking the Place de la Concorde, we find the Porte Monumentale, the principal entrance (of forty-five in all) that gives access to the grounds. This was designed by M. Binet. We pass along a broad walk, parallel to the river, bordered by statues, sculptures and horticultural exhibits, leading to the magnificent Avenue Nicholas II. and the new bridge, the Pont Alexandre III., and we then find on our right the two Palaces of the Fine Arts, the one nearest to us as we emerge on to the avenue being known as the Petit Palais (although itself an immense structure), and facing it on the other side of the avenue the Grand Palais, the rear of which abuts on to the Avenue d'Antin. These features, the two palaces and the bridge, are intended to be permanent embellishments of the town of Paris.

In order to be able to circulate round these vast congeries of buildings there were two routes, in opposite directions—the electric railway and the *platforme mobile*, which we shall meet again at the Glasgow Exhibition during the coming summer; then also there were the many lines of penny steamers, several lines of railways and the ever-present "bath chair."

La Porte Monumentale, designed by M. Binet.

An immense archway forms the main entrance, 65 feet wide, flanked by decorative minarets 160 feet high. Behind were other two arches, the whole covering the numerous turnstiles giving access to the grounds, while at the rear was a large wrought-iron gateway, the "Porte des Echevins," reserved for official processions, these all supporting the immense decorated dome. The whole was covered with rich colour, frescoes and glass mosaics, interspersed with innumerable tinted electric lamps, quite indescribable; while at night one saw charming colour effects produced by the luminous globes and concealed lights of great power, throwing up the whole into brilliant and overpowering splendour. Its effect to the mind of an architect can only be described as "Arabesque," for its author, who has a passion for colour, was undoubtedly influenced by the art of the Far East.

The crowning feature of this composition was the piquant figure of Modern Paris in the attitude of welcoming the nations, represented by a lady in a rich evening dress and cloak. This figure was the work of M. Moreau-Vauthier, and was the cause of a lengthy and rather hot discussion.

Le Grand Palais des Beaux-Arts.

This building, on the largest and most monumental scale, was during the Exhibition the home of the French and foreign displays of the fine arts, painting, sculpture and architecture, but it will remain as the permanent home of the French annual Salon, and possibly will also be used as the locale of many Government fêtes and displays. The building is of immense size, covering nearly ten acres; its plan resembles the letter H.

The cost was estimated at 25,500,000 francs. The foundations, over 550,000 francs, were put in with great difficulty, as a portion of the site was a mere marsh, with beds of peat and clay; part of the palace is therefore constructed on oak piles, and part on concrete bedded on a sandy clay. The stonework, 40,000 French tons, in a brilliant white freestone, the calcaire grossier, was all cut on the site by a diamond saw, fed by a ten-ton traveller, running on rails. Stone was exclusively used on the external fronts, but the inner walls were of rubble and brick, faced with stone. Ciment armé, *i.e.* cement concrete strengthened with steel wire of large gauge, has been largely adopted for the staircases and galleries.

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* "Staff" is a variety of fibrous plaster, cast in moulds.

Then for the roof were used about 6,000 tons of steel, executed by Daydé & Pillé, of Creil. I was informed the strains have been so carefully calculated that the resultants pass through the points of support, thus relieving entirely the masonry construction forming the enclosing screen walls of the palace.

Façade.

M. Deglane was obliged to alter and modify his first conception, in order that the Petit Palais, facing it, should not be overpowered by its more important neighbour. Instead of one large entrance porch, as originally intended, of great height, we find now three wide bays, with doorways and a colonnade; the basement was considerably lowered, and the roof put almost out of sight. But the glory of the façade was retained in the glass mosaic frieze, about 250 feet long, designed by M Fournier.

The immense nave, or sculpture court, 200 by 55 metres, is under one great glass roof, the central part being dome-shaped, of about 230 feet diameter, carried on curved principals formed as box girders, grouped in pairs, and decoratively treated with wrought-iron scrolls and ornaments.

Centre.

The intermediate part, by M. Louvet, or bridge of the H, comprises a return of the *nef* and the staircase of honour, with two short façades on the north and south sides respectively, each 65 metres long. M. Louvet had a knotty problem to settle when asked to provide for exhibitions of all sorts, the ground floor being intended for the Concours Hippiques and equestrian performances, for sculpture and various art exhibitions, the first floor for picture galleries and a salon d'honneur, and the basement for stables and stores; while his staircase of honour, besides being the principal means of access to the upper storey, was to be the grand decorative feature of the interior. Moreover, he had to arrange this portion as a complete whole, with its own entrances, stairs, lift and service, so that it could be used for functions quite apart from the great hall in the rear block. How he has managed this only those who have seen and studied carefully the plan can appreciate.

At the head of the wrought-iron staircase, sumptuously gilded, is the great concert-room for 1,500 persons.

Rear.

M. Albert Thomas, who did the rear portion of the great palace, had a fine opportunity, and has produced a very fascinating work It comprises a rectangle of 150 metres by 45 wide, covering nearly 7,000 square metres, with an important façade on the Avenue d'Antin, set well back from the frontage, and raised about 4½ metres above the roadway, giving a well-lighted basement to be utilised as stables during the horse competitions, with room for 600 horses, and accommodating also all the auxiliary services of this vast edifice, such as police, fire and ambulance posts, telephone service, office staff, tobacco bureau, &c

A large hall, nearly circular, forms the central feature on the ground floor, being about 29 metres diameter and 34 metres high, top-lighted, and of great beauty and originality of design; a large gallery, 5 50 metres wide, running all round the outside, on two floors, and two rectangular halls in the two wings, 20 metres by 45 metres, two storeys high, containing the means of access to the upper floors, and giving an uninterrupted vista from end to end of the building.

The front to the Avenue is treated with coupled columns, partly detached from the wall, with a central projecting portion forming the second main entrance to the palace, having in front a vast flight of steps. This portion is intended to be used for special exhibitions and functions, independently of the remainder of the palace.

A fine frieze in bas-relief, by M. Joseph Blanc, about 300 feet long, represents the history of art, and is placed behind the colonnade above mentioned. It has been executed at Sèvres, in opaque pottery or ceramic, and gave a most remarkable effect, being obviously inspired by the Assyrian friezes of Darius.

(*To be concluded.*)

LECTURES ON SCULPTURE.

IN his second lecture to the students of the Royal Academy Mr. Gilbert, R A, denied there was such a thing as dead art Death in art was only a somnolent influence upon its practice Donatello, Michel Angelo and Cellini were the embodiments by destiny of their Greek prototypes, and their awakening handed on to us traditions of which they themselves had only heard in scant measure. But he wished to refer to other great men of the period besides those three giants—to Ghiberti, the maker of the wonderful gates of the Baptistery at Florence, and to Verrochio, whose equestrian statue of Coleoni was possibly the finest work of its kind ever conceived or carried out—not even excepting the statue of Marcus Aurelius. He had said that there was no dead art, and it was true. Dead art in sculpture, as far as he could gather, began and finished last century, somewhere near the fifties. It was due, he thought, to undue striving after imitation, when those who sought to imitate knew little or nothing. It was difficult to understand how such a state of things could have come about after the arrival of the Elgin Marbles, but he believed that we owed much of our revival to an artist, painter and sculptor who still lives and works, and who as a child went to study the marbles and learnt his art from them. It was contrary to etiquette to mention the name of a living man at these lectures, and he would mention the name, instead, of a bust, *Clytie*, and of a picture, *Love and Death.* We also owed much to Flaxman for keeping the little flame alive, and as long as there were influences like this, Art could never die. After telling a story of the way in which Gibson worked at his *Tinted Venus* with six of the best models he could find in Rome on one side of him, and a collection of casts of portions of all the antique statues of Venus on the other, Mr. Gilbert spoke to the students about their own work in the Academy Schools. They should not think that the scope of the sculptor's art was bounded simply by modelling. That was simply a means to an end, and their modelling, if they would forgive him for saying so, was like pothooks and lines—mere exercises fitting them for the practice of their art. He knew they hated working from such casts as those of the *Theseus* and the *Ilissus*—they did not vibrate and live for the students; modelling them was a task. But they could not have better objects of study, they contained the highest beauties that can be found in the human form. This living art of the Greeks had come down to us from ancient days reflected in the work of Michel Angelo. He never saw the marbles of Phidias, yet something impelled him to put on the cloak of that artist, and to be worthy of it.

A part of Mr. Gilbert's third address was devoted to the close relationship and interdependence of the three sister arts, sculpture, architecture and painting. The lecturer drew on the blackboard an elaborate diagram—a kind of genealogical chart in which he traced the descent from sculpture of design, form and execution; from architecture of plan, construction and treatment, and from painting conception, colour and expression. Then he married plan in architecture to design in sculpture, construction to form and treatment to execution. Mr. Gilbert set forth this theory in order to prove that no work in sculpture—either alone or through its children—for so he designated the work of the goldsmith or silversmith—could arrive at achievement without aid from architecture or painting. Having borrowed so much from architecture, the goldsmith-sculptor must now call in the aid of the painter, for there are things in which without it his design would be imperfect, the fashioning of a necklace of jewels, for example; and the lecturer proceeded to marry expression to execution, colour to form and conception to design. They had now a kind of incipient skeleton which they could easily turn into a design, and he intended with their assistance to build up an imaginary work of art. The building, however, was not commenced, but Mr. Gilbert explained its nature in describing what he said was the dream of a friend of his. The friend, said the lecturer, was an admirer of the great John Ruskin and his precepts, and the dream was possibly founded on a remark of Ruskin's that the best training for an artist was that of a goldsmith. The friend dreamt that he saw a meeting between Donatello and two other great men, and was permitted in his dream a view and hearing of their interview. The three together decided to carry out a joint work which should do as much honour as possible to their beloved art, and that it should take the form of a necklace to adorn a great work of antiquity—to hang on the neck of the *Venus of Milo.* The statue had, of course, not at that time been revealed to the modern world, but his friend in his dream thought, nevertheless, that it was that statue, and Mr. Gilbert hoped that his audience would allow him the same license.

Mr. Gilbert, in his fourth address, proceeded to the subject of the design for the imaginary jewel for the neck of the *Venus of Milo,* which Michel Angelo, Donatello and Cellini were supposed to be constructing between them, excusing the anachronism for the sake of bringing together the three great men whose shades he had invoked for the guidance in art of his hearers. The lecturer first spoke of the bust the jewel was to adorn, a cast of which stood beside him. He asked the students to notice the head of the Venus—an example of the antique which they must learn to love. They might think the features conventional, but they should remember that the Greeks had their limitations, and rarely made portraits of heads during their best period, although their portraits of figures, such as the *Ilissus* and the *Theseus*, were so fine. There was an attempt in that period to deify the character of the heads; later on came realistic portraiture, but the Græco-Roman artists lost the sense of structure. After speaking of the setting of the eyes of the Venus and praising its true as opposed to superficial realism, Mr. Gilbert commenced the design of the imaginary jewel by sketching on the blackboard an outline of the "broken pediment," much employed by Michel Angelo and characteristic of that master's designs. Mr. Gilbert did not altogether approve of the broken pediment, but urged a plea for its admissibility in goldsmiths' work. On the top of either half of the pediment the lecturer sketched a reclining figure, a favourite device of Michel Angelo, and then gradually evolved a rough design for the jewel, which he will carry further. A little enamelled statuette, according to the supposed design of the three artists, was suspended in the centre of the jewel, between the halves of the pediment, both of which, to bring colour into the design, were adorned with panels of blue. The aid of Cellini was then called in to execute the ornament, all of which was in gold, and to design the pediment for the little figure. The design was sketched in coloured chalks by the lecturer. So far, he said, they had built it up without a subject, but they would come back to this again. Mr. Gilbert then returned to the consideration of structure, to which he devoted a part of his last lecture, and in this connection compared the horse in the equestrian statue of Charles I. with that upon which Verrochio placed his statue of Coleoni. He showed that the equilibrium depended in each case on the placing of the man on the animal. That upon which Charles sat could hardly be accepted as a horse, apart from its rider. He compared the London statue, in every way to its disadvantage, with that of Verrochio, but he doubted if Coleoni's horse could really stand in the position in which the artist had modelled him. Taken altogether, however, the Coleoni statue was one of the most magnificent patterns on a large scale that had ever been made.

In his fifth lecture Mr. Gilbert, in referring to his design, remarked that he had said nothing about subject, except that he meant to bring it to their minds by the remarrying of two of the children of the genealogical tree of art—conception and design. These two things were not synonymous, they were merely second cousins: conception, an act of the brain; design, that which the brain allows human power to carry out. From the marriage of these two sprang imitation, repetition, opposition, balance, inversion and completion; but to complete a work of art they would have to borrow from tradition and symbolism, from which depend material and forms. Forms were nothing but symbols which had come down through countless ages, and Mr. Gilbert sketched on the blackboard a number of symbols of which he traced the origin, explaining that the cross, although now a Christian emblem, was founded on Thor's hammer; that the Prince of Wales's feathers was really an emblem of the Trinity, adapted from a Buddhist source, and that the universal "keyhole" pattern in design was an old Persian symbol, which came to us through the Hindoos. All the forms, said the lecturer, which were used in the Donatello-Michel Angelo-Cellini design drawn last week were really contained in the old-world symbols he sketched on the blackboard. Referring to what he said last week about the affinity of music with the other arts, Mr. Gilbert took a musical sign—the treble clef—and used it to illustrate, by means of inversion, repetition and elaboration, the evolution of subject. With the aid of the five lines peculiar to the symbol and of the bass clef (the latter a distinctive feature of Cellini's design), the lecturer evolved a highly ornate monogram, "E.R."—one, he said, which we all respected.

ROMSEY ABBEY.

AT a recent meeting of the Society of Antiquaries, Mr. C. R. Peers read a paper on the discovery of a portion of an apse beneath the tower of Romsey Abbey Church. The discoveries, he said, consist of an apse on the site of the crossing and the bases of the two walls on the south side of the nave. The latter consist of a flint and stone rubble wall running east and west from the first pier of the south nave arcade to within 2 feet of the fourth, where it ends without a return, and a rough wall running north and south, at the level of the second pier. The first of these walls is 19 inches thick, and plastered on the north face with a rough yellowish plaster, continuous with a floor of the same description, which exists for the whole length of the wall. The second wall is 3 feet thick, roughly built, and stands on the plaster floor just mentioned, abutting against the first wall. To the east of the second wall is a second plaster floor, on 8-inch concrete laid on the first floor. A layer of rubbish, chiefly wood, lies on this, and in its turn is covered by a third floor of plaster. These floors clearly belong to the pits for stalls, and the walls are the substructures of stalls. From evidence found they may date from the thirteenth and late fourteenth centuries respectively, and show that at one time stalls extended into the fourth bay of the nave, and were subsequently shortened or moved eastwards. The remains of an apse under the crossing show a wall 4 feet 9 inches thick of flint rubble with an ashlar facing on both sides, only one course of this now remaining. A little Roman material is used. On the inner face of the wall are footings 1 foot 10 inches wide, their bottom course 4 feet below the existing floor level. The church shows four dates of Norman work, the earliest being two bays of the south aisle of the nave and two responds of the north aisle—about 1090. The second is the main body of the church as it now exists, which was begun from the east end about 1120, and ends with the fourth bay of the nave on the south side. It probably took about forty years in building. The third work is the lower part of the west wall of the south transept and the eastern part of the south aisle wall in the nave—about 1150. The fourth work is the fourth bay and respond of the north nave arcade—about 1180. The key to the history of the church is to be found in the third work, which does not range with the second, either in masonry or design, and clearly occupies the site of walls standing when the second work was being built, and only removed when that work was sufficiently advanced to make the new church fit to be used without them. The evidence of the building shows that the early Norman part of the south aisle wall in the nave was built against a wall of an earlier church, which stood till pulled down in 1150 at the general rebuilding, and was then replaced by the third work. The earlier church of which this wall formed part was most likely the church built in the middle of the tenth century, and on analogy with plans of existing churches of a similar date, known as the Dover type, the wall in question should have been the south wall of the south transept. The apse would be its eastern arm, and the history of this church would be that it kept its cruciform aisleless plan till about 1090, when it was enlarged by the addition of aisles north and south of the width of the transepts, parts of which aisles still remain as the oldest work now above ground. In 1086 Christina, sister of Edgar Atheling, took the veil here, and doubtless brought an accession of wealth to the church, which would make building probable. The church as enlarged stood till the rebuilding of 1120-60, and was taken down when the new work was sufficiently complete to be used. Of its western termination no evidence is as yet to be found. The west wall of the south transept, as was pointed out by Mr. St. John Hope, would occupy the site of the eastern range of the early Norman monastic buildings, and could not therefore be built till their successors were ready for use; hence the delay in its erection.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

A LECTURE was delivered on Monday night before the members of the Leeds and Yorkshire Architectural Society, at the Park Street Rooms, by Mr. Geoffrey Lucas, on the subject of "Logical Building and its Influence on Design." Mr. W. Carby Hall presided. The lecturer declared that the bulk of modern building did not express the deep underlying tendencies of present-day humanity in the same sense that architecture had incorporated such ideas, sympathy and feelings in the past. Present aims seemed small and commonplace. Of course, good buildings were produced nowadays, but the great architectural achievements of the lately closed century were almost entirely of a scholarly and archæological order. Architecture was surely one of the great arts. It was, too, a science, and a progressive one. It demanded a thorough union of construction and adornment. Picturesqueness was a side issue. Buildings had been ostentatiously erected with a vast variety of windows and adornments. That, however, was illogical. What they would like to say of a building was that it was simple and an honest endeavour to meet the requirements involved. Replicas were too common. Truro Cathedral and the Houses of Parliament were not without their grandeur, but they hardly appeared to be in touch with the age. New Scotland Yard, on the other hand, was a vigorous and simple piece of modern work, well suited to the purposes in view. One of the finest examples of modern logical building was the Roman Catholic cathedral, Westminster, which they might regard as marking the keynote of further progress. The complex conditions under which architects had now to work, the lecturer feared, told against advance. The withdrawal of the architect from personal contact with his work also handicapped him in comparison with his fellow-artificers of old. All details had now to be settled beforehand, and the competition system was another force acting adversely upon architecture as a progressive science. On the other hand, there were not a few advantages pertaining to the architects of the present time. They had the aid of photography, and possessed materials that the ancients could not command. Labour, again, was as plentiful as formerly. If they would advance, it must be on logical lines, purifying architecture of its "Billingsgate," and aiming solely at that which appeared true and essential.

NOTES AND COMMENTS.

The seventy-two plans submitted in competition for the erection of the new St. Matthias Schools, Salford, by the improvement committee of the Corporation, were referred to Mr. Royle, of Messrs. Royle & Bennett, architects, Manchester, as architectural assessor, to choose not more than ten as designs for the consideration of the committee. A sub-committee carefully examined these plans with the assistance of the clerk to the Salford School Board, and eventually made the following awards :—1. Plan No. 59; 2. Plan No. 29; 3. Plan No. 22. The corresponding envelopes containing the names of the competing architects were thereupon opened, and the successful architects are:—Plan 59, Mr. Benjamin Bower, architect, Birmingham; plan 29, Messrs. Woodhouse & Willoughby, architects, Manchester; plan 22, Mr. Alfred H. Mills, architect, Manchester. The plans which have been received will be on view at the Town Hall on the 12th and 13th inst.

All who desire to read outspoken criticism about French art will be glad to learn that the publication of *L'Art*, which was interrupted by the long and serious illness of its founder and director, M. Paul Leroi, is about to be resumed. The last part of vol. 4 of the new series has just been issued, and instead of 288 pages subscribers obtain no less than 1,124. The Director promises that the publication will appear regularly, its independence will be absolute, and the foremost engravers and designers will give their aid in order that the old reputation of *L'Art* will continue to be upheld. Among the contents of the part just produced are reproductions of twenty drawings by Ingres, an artist whose genius, according to the late Lord Leighton, "shone in nothing more than his pencil portraits, which for vivacity, delicacy, dignity of treatment and style are not easily to be surpassed." The second series, we may remind our readers, is of smaller size than the first, and therefore better adapted for preservation in libraries and studios in cities where accommodation is limited. As a record of art there is no publication in Paris of equal importance.

In Dundee there is no more interesting example of ancient building than the tower which has survived as a relic of the old parish church. Its height is about 165 feet. The tower, or "Old Steeple," was partially restored by the late Sir Gilbert Scott. It is believed it was to be surmounted by a coronal resembling St. Giles's in Edinburgh. For some time past several letters have been appearing in the *Dundee Advertiser* proposing that the existing "cape-house" should be removed and a crown substituted. The following extract from a communication by Mr. Charles Ower, F.S.A.Scot., will suggest the opinion of the majority of architects on the subject:—"In all the correspondence about the proposal to crown the steeple it seems to me that enough note is not taken of the fact that the old steeple has been a landmark in its present form for a period of 330 years, or thereby; that seven generations of Dundee people have been born, lived and died within sight of it in its present form; that it is 'The Auld Steeple,' and that if the proposal to crown it be carried out it would never be the same again to any living person. I contend for the position that when a building is in use in a particular form for a period of 150 years or more (327 in this case) it acquires a right to be left unaltered during all its remaining life, nay, to be carefully preserved and lovingly repaired, but it should neither be added to nor altered, any more than a written history of the period in which it existed. For old buildings are history as truly as written records. To cook a record of any event or period would be treated as a heinous offence; why cook this old tower? Can anyone say it is ugly? I think not: some of us like its quaint simplicity. We are told if this is done it will be like St. Giles's, Edinburgh, like Newcastle, like some half-dozen other places and towers, but I think the point in its favour is that it is different from all others, and quite distinctly so, and yet it is not offensive." Opinions will vary as to whether the structure would be improved in appearance or the reverse by the addition of a crown, but if first impressions are of any account, few, if any, visitors to Dundee from the South consider that the old steeple is manifestly incomplete.

The French Government have resolved to erect a new embassy in Vienna. At the present time the Palais Lobkobitz is occupied by the French Ambassador and his staff. The tenancy has continued since 1868. In the preceding years of the last century several mansions were utilised from time to time, and it could easily be inferred from the removals that France did not believe in the advantage of stability. The rent paid for the Palais Lobkobitz is 45,000 francs a year. As an excellent site is expected to be obtained for the new building, there will be an opportunity for some French architect to distinguish himself. Vienna now possesses several beautiful buildings, and it will be necessary to surpass them in order that the supremacy of France in the art of architecture can be generally admitted.

Judges and counsel are sometimes at variance in seeking how the 30-feet limit is to be determined under the Workmen's Compensation Act. A case which turned on the point was heard lately at the Manchester County Court. His Honour Judge Parry said it was impossible to adopt the street level as the starting-point, because that might vary on different sides of the building and even on the same side. He expressed the opinion that the limit was fixed by Parliament in order that builders of cottage property and other small structures should have a chance to be excluded from the operations of the Act. According to Judge Parry the measurement should be taken from the lowest brick to the highest point which had been reached in building. In the case which gave rise to the remarks the building was held to be 30 feet high, and judgment was given for the plaintiff. As leave for appeal was granted we may expect to hear more on the subject.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: SOUTH NAVE AISLE, LOOKING EAST.

The view of the aisle published this week suggests one of the vistas which are characteristic of York as of all great Gothic buildings. It is not a disadvantage to find the architectural lines remaining unobscured by obtruding monuments. The cathedral suffered at the hands of the Puritans, but it cannot be said that their destruction of monuments was vandalism. Among the testimonies which prove that York Cathedral can be impressive to visitors whose impartiality is undoubted, one by Nathaniel Hawthorne deserves to be quoted. He was a psychologist who in some mysterious manner seemed to be under the sway of Puritan terror, and his expression of delight in York Cathedral is more like that of an emancipated spirit than the record of an impression by a travelling author. He wrote:—"After breakfast we all went to the cathedral, and no sooner were we within it than we found how much our eyes had recently been educated by our greater power of appreciating this magnificent interior, for it impressed us both with a joy that we never felt before. I felt it too, and insisted that the cathedral must have been altered and improved since we were last here. But it is only that we have seen much splendid architecture since then, and so have grown in some degree fitted to enjoy it. York Cathedral—I say it now, for it is my present feeling—is the most wonderful work that ever came from the hands of man. Indeed, it seems like 'a house not made with hands,' but rather to have come down from above, bringing an awful majesty and sweetness with it; and it is so light and aspiring, with all its vast columns and pointed arches, that one would hardly wonder if it should ascend back to heaven again by its mere spirituality. Positively the pillars and arches of the choir are so very beautiful that they give the impression of being exquisitely polished, though such is not the fact, but their beauty throws a gleam around them. I thank God that I saw this cathedral again, and I thank Him that He inspired the builder to make it, and that mankind has so long enjoyed and will continue to enjoy it."

NO. 1 ALBERT COURT, KENSINGTON: DRAWING-ROOM.

ALBERT COURT, KENSINGTON: PART OF FRONT, FROM TERRACE.

CHURCH OF ST. JOHN, COLWYN, NORTH WALES.

NEW WING TO WHARFENDEN, NEAR FARNBOROUGH: VIEW TOWARDS DRIVE. VIEW TOWARDS GARDEN.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

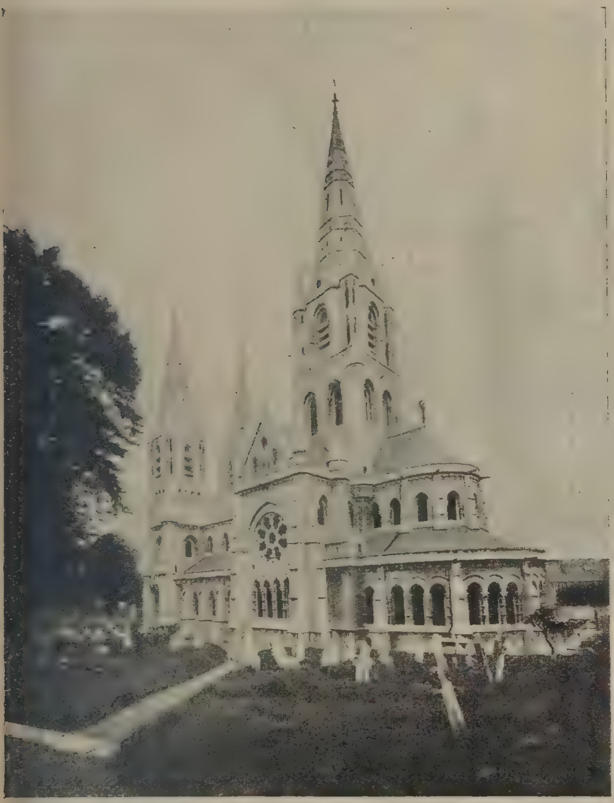
A BRIEF REVIEW OF ECCLESIOLOGICAL PROGRESS, 1855 TO 1875.

By T. Francis Bumpus,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

(*Continued from page* 116.)

It is greatly to be regretted that we should possess so few ecclesiastical buildings from the hand of William Burges. London can show but one, St. Faith's, Stoke Newington, a structure which, had the fittings and decorations been carried out in conformity with its late twelfth-century style—that for which it is so well known its architect had a predilection—might have become one of the most remarkable raised in England since the Revival.



St. Finbarr's Cathedral, Cork, from the S.E.
(*W. Burges, Architect*, 1863-70.)

St. Peter's, Great Windmill Street.
(*Raphael Brandon, Architect*, 1860.)

A few words concerning this most striking and abnormal of London churches—the last promoted in the north of London by Robert Brett, who died in 1874, surviving its completion barely a year—may be of interest. Built mainly of yellow brick, the plan of St. Faith's, Stoke Newington, is that of a simple parallelogram terminating in an apse of noble sweep. There are no aisles, but the walls are thickened to admit of narrow ambulatories, which in the portion of the church devoted to the nave, open into it by triplets of severely simple arches on short coupled columns, the carving of whose capitals is certainly the most satisfactory decorative feature of the edifice at present. These arcades are surmounted by a series of very simple but majestic windows—broad lancets like one sees in the *pourtours* of Sens and Auxerre, or in the eastern parts of the choir of Canterbury. In the nave and chancel these windows are arranged in pairs with, externally, a banded shaft, whose capital is at present *en bloc*, between them, while in the apse they are placed singly. Inside, the intrados of these windows—corresponding in depth, of course, with the wall on which they are raised—spring from banded shafts of iron at present painted brown, but which in default of granite or marble might be made a vehicle for applied polychromy of the richest and most brilliant description. In giving these windows their complement of stained glass such Early Pointed specimens as those in the corona of Canterbury or the choir aisles of Sens should have been emulated. Instead of this, the whole series seems destined to become loaded with as commonplace a collection of glass as it is possible to conceive. Surely the work of such a genius as Burges deserved better treatment. And the rest of the internal decorations and arrangements are on a par. It is refreshing to turn to the grand coved wooden ceiling, resembling that in the architect's cathedral churches of St. Finbarr, Cork and Brisbane, and to the exterior, whose west end—completed from the designs of Mr. Jas. Brooks in 1883[*]—is flanked by square arcaded turrets with short slate spires and lighted by a noble circular window, below which is a doorway whose tympanum offers a splendid field for the talent of the sacred artist. An almost Cistercian sternness is the leading characteristic of this unique London church, the contrast it presents in every way to its mother—St. Matthias—being most striking. The whole was, no doubt, designed by Burges with the object of carrying out one of those iconographical schemes in stained glass and mural decoration, in the drawing up of which he was in all probability unsurpassed.

A small but very ornate church was built during the early seventies by Burges at Studley Royal, near Ripon, and somewhat earlier the simpler ones at Fleet in Hampshire, and Lowfield, near Horley, but his largest and most finished performance, of course in the earliest phase of Pointed, is St. Finbarr's Cathedral at Cork, begun in 1863 and finished in all essentials towards the end of 1870 Although Burges did not live to see the completion of this fine creation of his genius, a considerable deal of the splendid furniture upon which he had bestowed such attention was placed in it during the ten years which elapsed between its consecration and the death of its talented architect.*

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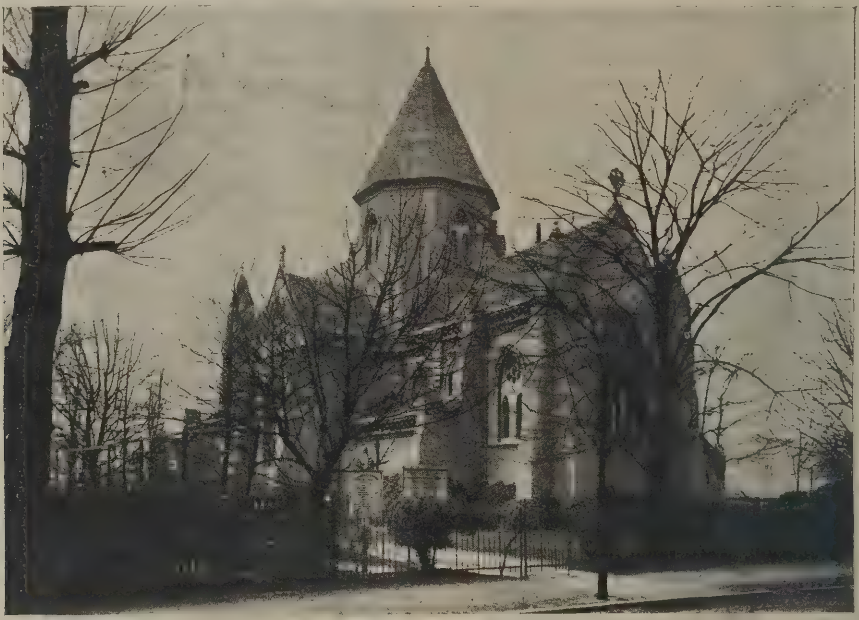
[*] This church, an offshoot of St. Matthias, was commenced in 1872, the foundation-stone being laid on Lady Day of that year by the late Lord Addington, in the midst of a snowstorm. The chancel and a portion of the nave were ready for consecration on May 17, 1873, and ten years later the latter was extended to its present dimensions.

Simultaneously with Cork, the restoration and, in some instances, rebuilding of other Irish cathedrals was being prosecuted with much vigour, and, singularly enough, at a time when the enemies of that Church were most active in promoting her disestablishment and disendowment. At Kilmore, Kilkenny, Tuam and Limerick cathedrals the work was being performed very creditably, but at that beautiful specimen of Anglo-Hibernian First Pointed—St. Patrick's, Dublin—the works, in face of warning from competent quarters, revealed on their completion a sad series of blunders, incompetencies and glaring instances of bad taste and irreverence, resulting, as might have been expected, from the non-employment of a professional architect. On the contrary, Dublin's other cathedral—Christ Church—had the good fortune, three years after the completion of the works at St. Patrick's,† to fall into the hands of Mr. Street. Under him, aided by generosity as splendid as that displayed at the sister cathedral, but in this instance properly directed, Christ Church was transformed from a mass of architectural and ritual deformity, probably unparalleled, into one of the stateliest and most beautiful churches in the three kingdoms.



St. Saviour's, Highbury, from the S.E. (*Wm. White, F.S.A., Architect*, 1865–66.)

The late William White was very busy during this eventful period of our history. His large church of All Saints, Notting Hill—fully described and illustrated in this series, and evincing its architect's adherence to the traditions of Pugin—was completed as regards its shell in 1855, but for several years, owing to pecuniary complications, stood neither fitted nor glazed. In 1860 the works—entrusted, unfortunately, to hands not those of an architect—were resumed, and the building consecrated in April of the following year.

A little later White began a church of considerable interest at Masborough—that of St. John—and in 1866 his small but undeniably clever brick church of St. Saviour, Aberdeen Park, Highbury, was completed. Both here and in a group of churches built in the parish of Battersea—St. Mark's near Clapham Junction, and the as yet unfinished St. Mary-by-the-Park at the south end of Battersea Bridge meriting the most attention from the ecclesiologist—the most economical material has been manipulated by this architect with marvellous facility.

Of Mr. S. S. Teulon's churches, that of the Holy Trinity, Hastings, with its graceful apsidal chancel and as yet unfinished tower, cleverly adapted to an awkward site, perhaps attracted most attention. It was opened about 1860, and nine years later the architect witnessed the completion of his largest and most elaborate church, St. Stephen's, Hampstead, where the steeple standing over the chancel, and the apsidal sanctuary projecting beyond, derive additional grandeur from the somewhat rapid slope of the ground from west to east. But while betraying much originality of invention, it is impossible to view this and sundry other of Mr. Teulon's works without reflecting that more moderation would have been in place.

In striking contrast to this stands Basil Champneys's severe Early French Pointed church of St. Luke, Kentish Town, a contemporary of St. Stephen's, having been consecrated during the same year. Its nobly-proportioned cruciform saddle-back steeple occupies the same position as Mr. Teulon's hip-gabled one at Hampstead, but has more majesty, in consequence of the omission of the transept, its place being supplied by the prolongation of the nave aisle. This very effective but by no means common English feature occurs at Etchingham Church, near Hastings, at St. Mary Magor, in Monmouthshire, and at Fairford, and has been introduced with much success by other architects besides Mr. Champneys since the Gothic Revival.

It was as a "recaster" and "refitter" of certain Wrennian and debased Italian churches that Sir Arthur Blomfield came most prominently before the public during the sixties of the last century, among his works in this direction being St. Anne's, Soho, Quebec Chapel (now the Church of the Annunciation), near Bryanstone Square, Banbury Church, Trinity College Chapel, Cambridge, and St. Lawrence Jewry. Early in his career Sir Arthur had given his adhesion to a non-English form of ecclesiology, as evidenced in the pretty little churches of St. Matthew, Croydon, and of St. Peter, Eastgate, Lincoln, and in the stately basilica of St. Barnabas, Oxford, finished in 1869.

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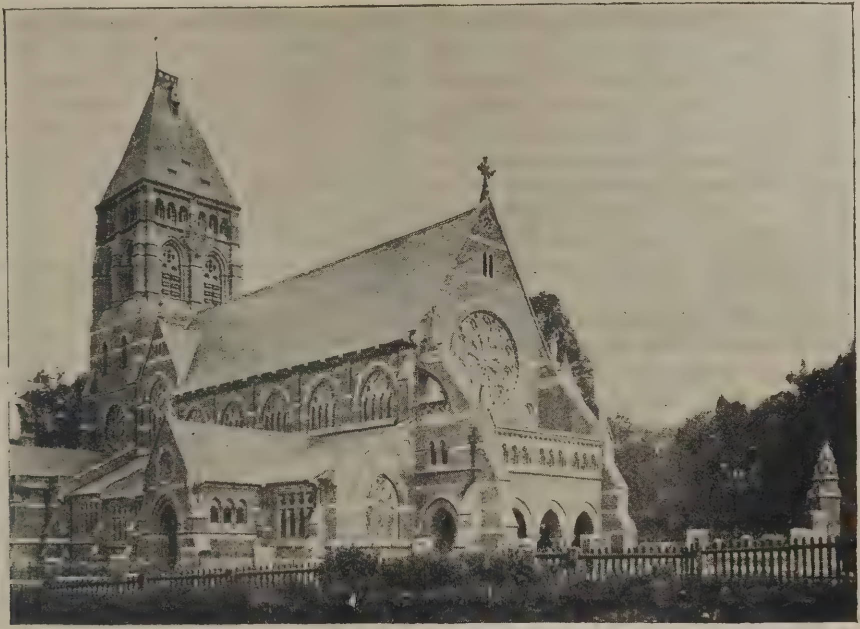
* Between 1872 and 1874 Burges was devoting most of his attention to the preparation of designs for the entire decoration of St. Paul's Cathedral. In his tastes Burges was ultra-Mediæval, and he could hardly have been expected to produce designs which would have been thoroughly in keeping with Wren's style, so by way of compromise Byzantine was adopted. When exhibited at the Academy these works excited universal admiration for their richness and splendour, and for the erudition displayed in their iconography. But even Burges's best friends could hardly regret his not having been allowed to see their fulfilment, beautiful though they are. Architecture was regarded mainly by him as a vehicle for painting and sculpture. No matter how commonplace the building might be upon which he had to work, Burges was invariably able to introduce something artistic into it. His decoration of Worcester College Chapel, Oxford, and his transformation of St. Thomas's Church, Stamford Hill, a miserable eighteenth-century conventicle, into a really imposing basilica are instances of this gift.

† St. Patrick's Cathedral, Dublin, was reopened on St. Matthias's Day, February 24, 1865, having been closed four years, *i.e.* since May 1861.

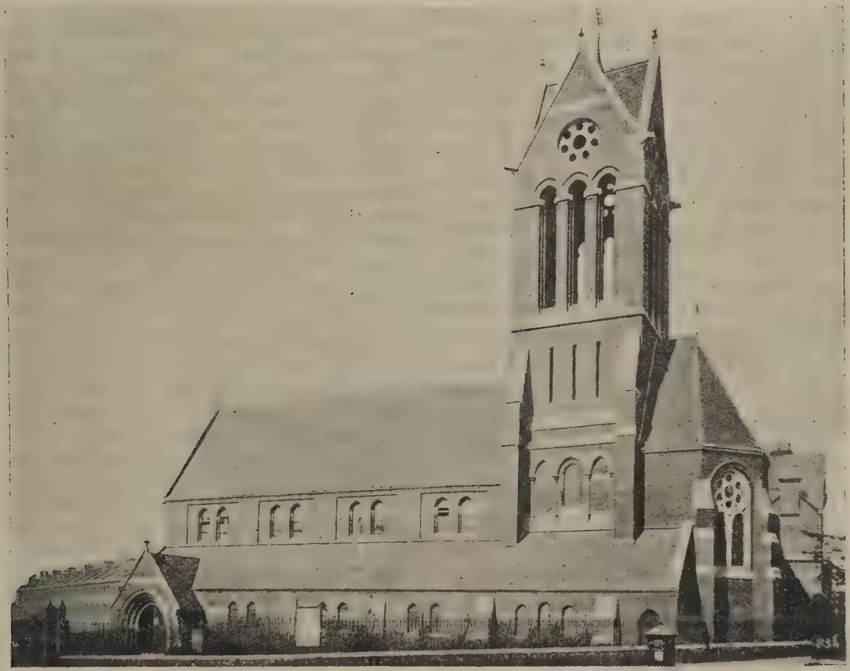
and due to the generosity of Mr. Combe, of the University Press.*

Of equally Southern type is the architect's contemporary work, St. Luke's, Burdett Road, a graceful red and yellow brick church in an Italianising sort of Romanesque, filled with stained glass on a uniform plan by Mr. Daniel Bell. St. Mary's, Strood, the private chapel at Tyntesfield, St. John's, Wilton Road, and his additions to St. Peter's, Eaton Square—all in progress between 1869 and 1873—may be named as some of the happiest efforts of Sir Arthur Blomfield before his return to more strictly English types.

A remarkable church was finished from Raphael Brandon's designs in 1860—St. Peter's, Great Windmill Street—remarkable, because in its Northern French style it affords a striking contrast to that architect's purely English church of a few years earlier in Gordon Square. Exigencies of site forbidding the erection of a bona-fide chancel, the chorus cantorum had perforce to be located within the last bay of the nave, an apse whose windows recall those in the chapels surrounding the choir of Beauvais Cathedral forming the sanctuary. Graceful as is this apse at St. Peter's, Windmill Street, it is surpassed in point of completeness by the vaulted one which, on the motif of one of the chapels at Rheims Cathedral, Mr. Conybeare appended to his rich First Pointed church at Itchenstoke.



ST. STEPHEN'S, HAMPSTEAD. (*S. S. Teulon, Architect*, 1869.)



ST. LUKE'S, KENTISH TOWN. (*Basil Champneys, Architect*, 1869.)

A small, but decidedly clever, church is St. Philip's, Sydenham, and like the two just alluded to, equally foreign in aspect. Built from the designs of Edward Nash between 1865 and 1866, upon sloping ground, the apsidal chancel and a double-storeyed sacristy to the north of it, having from the nature of the site a much greater elevation than the transepts and nave, present an imposing architectural group. In this church nave and aisles are covered with one continuous slope of tiled roof.

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* The graceful campanile of St. Barnabas, completed in 1871, adds to that variety and beauty of domes and spires which has become proverbial.

The walls of the latter are somewhat low, and lighted by windows treated simply as a piercing in a slab of stone, and not as a piece of constructed masonry—treatment quite un-English, and except by Mr. Butterfield at St. Matthias, Stoke Newington, but little resorted to during the period of which we are writing by modern architects.

Among the many works in hand by Mr. Joseph Clarke at this time, one of the most remarkable is the pretty little cinq-apsidal chapel attached to the House of Charity in Soho, the idea for which was in all probability furnished by the chapel of St. Croix, belonging to the Abbey of Mont Majour.

Mr. Rhode Hawkins, whose church of St. Paul, Bow Common, has been noticed at some length, built, a few years subsequently, St. Michael's, Star Street, Paddington, in a bold Early French style, and on a site which compelled the width to be in excess of the length. The same architect's cognominous church on Mount Dinham, at Exeter, is in the same phase of Gothic, cruciform, with a noble central tower and spire, deep aisleless chancel and nave, whose extremely narrow aisles give the building a somewhat cramped appearance when viewed from certain points.*

Mr. Emmett, in Holy Trinity Church, Sydenham, which embodies reminiscences of the Angel Choir at Lincoln, Mr. Ferrey at Chetwynd, and Mr. Knowles in his church of St. Saviour, Cedars Road, near Clapham Common, adhered to English traditions; while Mr. Peacock, in St. Jude's, Gray's Inn Road, and Mr. Willoughby Mullins, in St. Saviour's, Croydon, evinced a preference for a more eclectic and foreign treatment of the generally accepted plan of a nave and chancel with aisles.

In the Western Counties at this period much good solid work was being accomplished by Edmund Sedding, whose works soon passed from their first Cornish sphere into Wales and Lancashire. His latest church, left unfinished when on the festival of Corpus Christi, 1868, his short brilliant career was cut short by death, was that of Marple in Cheshire, completed by his younger and no less gifted brother John D. Sedding.†

Mr. St. Aubyn's group of Devonport churches was much admired, and several of considerable merit were being built in the same county, especially in the vicinity of Exeter, by Mr. E. Ashworth and Mr. C. F. Hayward, architects of local reputation. The ecclesiology of Torquay was enriched by the strikingly situated Early Pointed church of St. Michael, built of the local red stone from the designs of Mr. Prichard, who, in conjunction with Mr. Seddon, had transformed the cathedral of Llandaff, between 1857 and 1869, from what at first sight appeared a hopeless mass of ruins and eighteenth-century burlesque into a church of which the Principality is justly proud. To the joint pencils of these architects several churches of great beauty in the same diocese are due. At St. Mary Church, a short distance from Torquay, Mr. Hugall had completed the re-edification of its parish church in 1872 with the western pinnacled tower. The stately and appropriate Middle Pointed English nave and chancel, which had been built by degrees between 1855 and 1861, would not, we suppose, be called a very striking or abnormal work; but its ample area (the south nave aisle being of unusual width and separately gabled), clustered columns with marble shafts, refined and carefully studied mouldings, and correct ritual arrangements, unite in composing a whole which, although pleasing, does not require much description.

The Plans prepared by Mr. John P. Briggs for the new Theatre Royal which is to be erected on the site of the present theatre in Colchester for Mr. Charles Macdona have been approved by the Town Council.

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* The great age and infirmity of the Bishop of Exeter (Dr. Phillpotts) precluding him from being present, the consecration ceremony was performed September 30, 1868, by Dr. Medley, Bishop of Fredericton, himself an ecclesiologist of no mean order, one of the earliest members and secretary of the Exeter Architectural Society, and mainly instrumental in building his fine cathedral in New Brunswick from Butterfield's designs. Very early in the forties Dr. Medley founded the pretty little church of St. Andrew, at Exwick, just to the west of Exeter, from Mr. Hayward's design. At that time he was vicar of St. Thomas.

† In several respects Edmund Sedding resembled another gifted son of the Anglo-Catholic Church—William Dyce—who had preceded him to the grave four years before.

RECENT ADVANCES IN POTTERY DECORATION.*

THERE appears to be a general idea in this country that the glories of decorative pottery lie almost exclusively in the past, and that while we have undoubtedly made great progress of recent years in all the mechanical aspects of pottery work—in the manufacture of drain-pipes, sanitary goods, building blocks (glazed and unglazed) and hard-fired white earthenwares for the most ordinary uses—we have little or nothing to show on the decorative or artistic side of our work that is new or worthy. The display of modern pottery at the Paris Exhibition of last year must have been sufficient to convince the most casual, or the most sceptical observer, that any such idea is entirely erroneous. New processes of pottery decoration, or, what is equally valuable, the rediscovery or extended application of old processes, were to be seen on every hand, and there was ample evidence that the Exhibition marked a period of exceptional activity in the development of the potter's art. The change in style and method from previous exhibitions amounted almost to a revolution. Artist potters from France, Germany, Sweden, Denmark and Hungary exhibited productions that in former years would have been regarded as freaks or accidents, never to be repeated, and therefore unworthy of consideration in an age devoted to the production of a uniform and mechanical perfection. Even the great conservative establishments with long-recorded histories, such as Sèvres, Dresden, Berlin and Röstrand, relied far less than usual on the display of amazing *tours de force*, marvels of patient skill and long-accumulated knowledge, but were as eager as the youngest and newest to show that they were in the movement and up-to-date.

Two features of the Exhibition struck me, at all events, painfully. First, the poor and imperfect display of English pottery, and second, the number of decorative methods used by foreign potters, which are either unknown or but little practised in this country. It is true that our native potters have made the greatest advances in all the practical branches of pottery production—in the careful selection and mixing of their clays, the fabrication of their pieces and the soundness and durability of their glazes—and if I now venture to draw their attention to new developments that are taking place in other countries, it is solely with the hope that we may rightly contribute our share of additions to the volume of new things in the decorative direction also.

The most important as well as the most striking of the recent developments is to be found in the varied applications of metallic lustres. Fifty years ago the methods by which the famous lustres of the Persian, Hispano-Moresque and Italian majolica potters had been produced were presumably lost. The common notion was that the rich ruby of copper lustre and the pale yellow of silver lustre were alike produced from some gold preparations, of which the secret had been carried to the grave with the potters of the sixteenth century. We now know that such an idea was erroneous. The process still survived in some of the small potteries in Spain, where it had been handed down from father to son, but these potters were out of touch with the rest of Europe, and the revival of true lustres at Gubbio and Doccia, and later by Mr. De Morgan in this country, owed nothing to tradition, but were genuine rediscoveries of a process overlooked or forgotten for 300 years.

I do not propose to enter into details of the making of lustres, for Mr. De Morgan himself practically said all that was to be said on that subject in the paper he read before this section of the Society of Arts in 1892 I may just remind you that true lustres are produced by refiring pottery that has been otherwise glazed and finished, and afterwards painted with some clay substance mixed with small quantities of copper or silver compounds. The ware thus coated is fired to a dull red heat in a muffle furnace, and when a sufficient temperature is reached a volume of smoke or other reducing gas is turned into the kiln, and the firing continued for a short time until the metallic compounds produced are absorbed by the glaze and stain it, red in the case of copper and yellow in the case of silver. This stain generally bears an iridescent film, probably of actual metal, upon it, and it is this metallic *reflet* which we call lustre. Although in this country Mr. De Morgan, and later Messrs. Maw and Messrs. Craven Dunnill have done admirable work on tiles and pottery, certain foreign firms have carried the process a good deal further, and the lustres produced by the Massiers at Cannes, and more recently by Zsolnay at Pecs in Hungary, remind one but little of Mediæval work.

The early pieces of Massier lustre, like those shown here, are simply admirable pieces of ordinary copper and silver lustre, but M. Clement Massier very soon branched off in new directions, and by producing thin films of silver lustre on dull bluish and greenish grounds he subdued to some extent the general tone of his pieces, allowing his frankly naturalistic pattern in brilliant lustre to shine with the most gorgeous prismatic effects. Within the last few years he has also tried the effect of firing his pieces very much harder, in some cases almost to the bending point of the ware itself, with the result that the stain penetrates further into the glaze and acquires great depth and solidity. Most of these pieces are on pottery of a dark red clay, evidently coloured with an opaque glaze and then fired hard during the lustreing. It will be readily understood that in this case the results must be very uncertain ; the lustre is developed only in patches, and in many pieces there is hardly any metallic *reflet* at all, but a broken ground of mingled colour is produced, which, to my thinking, is an improvement, as the naturalistic pattern is almost lost. I must also point out that in many of Massier's pieces the effects are obtained by putting patterns of silver lustre on a ground of copper, a process but little practised in this country.

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* A paper read by Mr. William Burton, F.C.S., at the meeting of the Applied Art Section of the Society of Arts.

The lustre pieces produced by Zsolnay are quite different in character from all others. While at Res they produce many admirable specimens of lustres of the ordinary kind, and are especially successful with the gorgeous red stain of oxide of copper, almost free from lustre, they produce other pieces in which the most minute patterning exists ; apparently they have such control of their materials and processes that they can do what they like in lustre, just as if they were working in ordinary pottery colours. Their very success gives one pause. The lustre process is, from its nature, uncertain and difficult of control. When an effect is to be produced by staining into a glaze during the fining, how is the stain to be governed to the thickness of a hair, and retained in its exact place without any softness of flowing or spreading ? We know, as a matter of fact, that the accidental clouding and softness produced in the best lustre, which is no small part of its charm, must always present an obstacle to minute pattern. An examination of some of these pieces convinces me that there is a very simple explanation. Many of the lustre effects produced by Zsolnay and other continental firms are not lustres produced by reduction in the kiln, but lustre pigments, having a basis of bismuth salts variously coloured, that can be fired in an ordinary kiln with the ordinary oxidising atmosphere. It must not be forgotten that while most of us understand the word "lustre" to indicate effects produced by smoke or some other deoxidising agent, the same term has long been used to include effects obtained in imitation of these, but without the risks and difficulty of the true lustre method. Thus a gold lustre, made by suspending very finely divided gold in a balsam of sulphur, has been in use on English pottery for considerably over a century, and in the middle of last century M. Brianchon, of Paris, discovered that by dissolving a salt of bismuth, such as the nitrate, in a mixture of oil of lavender and resin, it was possible to obtain a white, fairly transparent coating, which had the soft iridescence of mother-of-pearl. Further, this bismuth lustre could be coloured by the addition of small quantities of compounds of gold, iron, uranium, &c , and a variety of tints was thus obtained still possessing a brilliant iridescence. In our own country the well-known Belleek ware owed its soft pearly play of colour to a lustre of this kind; while on the Continent several firms have used these lustres in combination with underglaze colours and coloured glazes to produce effects which are difficult to distinguish at a glance from true lustres. Lustres of this class need no reduction in the kiln, but are fired as easily and safely as any other on-the-glaze pigment. I think the fine patterning of Zsolnay is to be accounted for in this way—paint or print a pattern in underglaze, or even in onglaze colours, and then overlay the whole piece with a bismuth lustre, or pick out the pattern in lustres of various colours, according to the ground colour underneath, and the effect will be very much that shown in the pieces exhibited here. If I do not regard this process with the same respect as that of lustre by reduction, because it is so much easier to do, and the final effect is by no means so beautiful, it is still a true pottery process, and Zsolnay is to be commended for carrying it so far, and obtaining by its means pleasing and legitimate effects which could not be obtained in any other way.

Next in importance to the development of lustres, and not unconnected with it is the progress made, especially on the Continent, in the production of the magnificent red glazes so long known only to the Chinese, and for more than a century the hope and the despair of European potters. These red glazes must be perfectly well known to you from the magnificent Chinese specimens in our museums, known variously as sang-de-bœuf, rouge flambé, &c. Splashed, veined, streaked, mottled, with various shades of red, blue, purple and even touches of green ; transparent and opaque in varying degree, presenting, in fact, an infinite variety of colours and textures, it is not surprising that these striking glazes remained an enigma to successive generations of European potters. The analyses of Salvetat and Seger, and the long-continued experiments of Chaplet in France and of Bernard Moore in England, have, however, solved the problem, and it is possible to obtain now in Europe not only the effects so long obtained by the Chinese, but others not hitherto found on such Oriental pieces as are in our museums. I am particularly favoured in being able to show you to-night a number of specimens produced by Mr. Bernard Moore, who has experimented successfully with these glazes for more than thirty years, and who, although he has spent some thousands of pounds in his experiments, has never, so far as I know, offered a piece for sale, but has remained content with the proud knowledge that he alone among English potters had solved this difficult problem. I feel it the more necessary to mention this because not only would Mr. Moore be the last man to make such a claim for himself, but so much is being published on the Continent on the subject that there may be said to be no longer any secret in the process, except the important secrets of practical manufacture, which one can only solve by actual work.

To describe now the theory of these glazes. We have already seen that the gorgeous stain of ruby lustre is due to the penetration of reduced copper oxide into the glaze. Imagine that the copper oxide is put into the glaze mixture before it is fired, and that when such a glaze containing oxide of copper is melted in the kiln, it is surrounded with reducing gases. We ought, under such circumstances, to obtain a brilliant red glaze. Such is indeed the case, and roughly speaking rouge flambé glaze differs only from copper-red stain by the method and temperature of its production. I have pointed out that the temperature at which lustre is produced is very low, in fact a just visible red heat, but the temperature needed in the case of copper-red glaze is that at which the glaze itself will melt and mature. Again, while it seems very difficult, if not impossible, to produce copper lustre on a leadless glaze, it is quite possible to produce copper-red glaze without lead. There is a singular point in connection with this, viz. that in all the analyses of Chinese flambé glazes that have been published by Salvetat, Seger and Vogt, there is found a considerable proportion of lead oxide, thus proving that the conditions which readily reduce copper to its lower form of oxidation are not sufficient to reduce silicate of lead ; evidently the copper oxide is in a less stable form of combination. Another equally striking point in connection with these glazes is the extremely small percentage of copper needed to give the richest tint. It has been shown, both by analysis of Chinese glazes and by actual European practice, that not more than one-half per cent. of copper oxide is needed to give the richest and most solid red ; indeed, it seems impossible to keep the amount of copper in the glaze too low. Another practicable point of the greatest interest is the variation produced in these glazes by slight variations of composition or of firing temperature and conditions. The solid, uniform, opaque red glaze which would seem *à priori* the easiest to produce, is, in some respects, really the most difficult. From an examination of many European pieces it is evident that one of the first things that happens in the melting of the glaze is the aggregation of the copper compound. At a certain stage of the firing it appears to gather itself into clots, and while it may become once more diffused throughout the mass, it also may not. The tin or iron compounds which may also be added to the glaze aid this clouding, and there can be no doubt that the bluish and violet streaks, mixed with white, that variegate the finest pieces of red glaze, are caused by their means. I have here a little dish that should have been coated with the copper-red glaze. Through some accident during the firing the reducing atmosphere was not maintained, and the copper has run back to the condition in which it gives its well-known bluish green tint ; yet the tint is not uniform, but is simply produced by a series of green blotches with perfectly white colourless glaze between. Here is another piece in which the red colour is retained, but only in patches in a perfectly white glaze. While some of these effects may be due to aggregation of the copper oxide, others must have a different origin. Mr. Bernard Moore holds most strongly that if the reduction be pushed too far the red glaze becomes quite white and colourless. One other point and I must leave this fascinating subject. The opinion was held for a long time that rouge flambé glazes could only be produced on hard paste porcelain like the Chinese. This is quite a mistake. Such glazes have been successfully produced on English bone china, stoneware and English earthenwares, and though of course the result varies somewhat according to the nature of the body, the really important part is the production of a glaze which will melt and come perfectly bright and glossy in a reducing atmosphere.

We have seen that the success of copper and silver lustres and of rouge flambé glazes turns entirely on the firing being completed while the atmosphere surrounding the pieces is not only deprived of the greater part of its free oxygen, but is made actively reducing or greedy of oxygen by admixture with certain other gases, of which carbon monoxide may be taken as a type. Considering the magnificent effects produced by firing a glaze containing a trace of copper oxide in a reducing atmosphere, it is only natural to expect that other materials should be tried under similar conditions. Here, again, the French potters have been before us, and have obtained already some most promising results. There was shown at the Paris Exhibition a case of small vases made by Franchet, of Golfe Juan, in which a blue colour had been obtained from titanium, a green colour from cobalt, a celadon from oxide of iron, as well as various shades of red from oxide of copper.

Seeing the effects that have been produced by obtaining an exquisitely thin film of metal on the surface of a glaze, it is not surprising that potters should also have turned their attention to the production of crystals either on the surface or in the mass of a glaze. Every potter knows by bitter experience how easy it is to spoil certain kinds of glaze by inattention during the firing process, producing either a partial decomposition or devitrification of the glaze coating, which results in the formation of a network of radiating crystals almost like frozen breath on a window-pane. Such an accident might well have formed the starting-point of experiments in this direction, but whether that be the case or not it is certain that a few years ago the Royal Porcelain Works at Copenhagen first made a practicable and commercial success of a method of pottery decoration in which such crystallisation had been carefully anticipated, and was to a very limited extent under control. Other famous continental establishments have followed suit, and now Sèvres, Röstrand, Berlin and Meissen, to mention only firms of world-wide repute, are producing pieces similar to those shown here, though in my opinion the Copenhagen pieces remain unsurpassed. This departure is at once novel and strikingly beautiful. The groups of starlike radiating crystals, together with the soft splashes of broken colour from which they half-emerge, or under which they half-hide themselves, form a decoration at once tender and charming. As with lustre, too, the effects cannot be absolutely controlled, and while that imposes restraint and care in handling, it also leaves the door open for something rarer and more precious than was intended.

There is no particular secret in the production of these crystalline effects. A melted glass, like any other fluid substance, will dissolve a certain quantity of added silicates or oxides. So long as the glaze is molten the mixture is perfectly clear and apparently uniform, but as the glaze cools it is no longer able to hold in solution the whole of what it had dissolved. Some oxide or silicate must separate out from the rest, and if that particular substance is one that crystallises readily, then it will separate in the form of crystals, such as you see here. The higher the temperature to which the glaze is fired and the more slowly it is cooled, the more perfect will be the crystalline growth, and you will find that all the crystalline glazes of this type have been produced on hard-paste porcelain and on stonewares.

While I am speaking on the subject of crystalline glazes, two other types, which were produced earlier than the Copenhagen ones, are worthy of mention. One is the tiger-eye or aventurine glaze, obtained semi-accidentally at the Rookwood pottery in America, and the other the "Sunstone" glazes, first obtained by my brother, Joseph Burton, and since completely developed at our works. In both these cases the crystals formed are not in patches on the surface of the glaze, but exist as fine glistening plates, showing strong prismatic colours, and diffused throughout the mass of the glaze in golden clouds. Beautiful as these effects are, they are not so striking as crystalline glazes of the first order, as the piece must be held in the hand to appreciate their beauty. While the Rookwood effect is only obtained on a red body glazed with a deeply coloured glaze, our "Sunstone" effect can be obtained on any body and in a variety of colours. The supersaturation of a glaze with certain mineral compounds at a high temperature, and the subsequent separation of these in a crystalline form on cooling, accounts absolutely for these glazes as for the others, but why in one case the crystallisation takes place throughout the mass of the glaze and in the other case on the surface only is not quite so clear, though it gives a hint as to method that a practical potter will have no difficulty in following up.

It seems a great jump to pass from the consideration of crystalline glazes, with their jewel-like delicacy, to stonewares, because most of us think of stonewares only as salt-glazed wares, with the low-toned Lambeth wares of Doulton at one end of the scale, and salt-glazed drain pipes and bricks at the other end. On the Continent, however, and to some extent at home, a newer kind of stoneware is coming to the front in which there is greater range of colour, texture and glaze quality than is possible with salt-glaze. In France this movement is most strongly marked, and in addition to such well-known firms as Emile Muller, Bigot, &c., we find artist potters like Delaherche, Lachenal and Delpayrat producing most artistic work in *grès* or stoneware, though their products are as unlike the stoneware of popular idea in one direction as the famous productions of Josiah Wedgwood were in another direction. Of course these modern stonewares are not altogether unlike the old. The body is hard and vitreous, and in most cases body and glaze are produced at one fire, and that a high one. The glaze, however, is no longer salt-glaze, but in most cases is produced by simply softening some native felspathic mineral similar to our Cornish stone by added fluxes. With the hard fire necessary to melt such a glaze, and the fine colour-developing qualities inherent in felspathic materials, the results are often singularly soft and harmonious, and as the range of colour obtainable is very great, from the softest grey-blues to rouge flambé, the newer stonewares will undoubtedly form an important addition to the long list of pottery species. On the Continent, and especially in France, Germany and Hungary, these stonewares are rapidly coming into use for the exterior decoration of buildings, a service for which their hardness and durability admirably fits them. Perhaps in another half-century English architects will wake up to this fact, and give the English potter a chance in the same direction.

I must just mention one other departure briefly. Demands have been made on us for some time by artists and architects of the newer school for glazes, especially those used on wall tiles, that should not have the full brightness and glitter of ordinary pottery glazes. It is easy enough to dull the bright surface of a glaze by sand-blasting it or by exposing it to the vapours of hydrofluoric acid, methods used for producing ground or frosted glass. Many pieces of dull glaze produced by these methods were shown at the Paris Exhibition, but such methods hardly commend themselves to a potter, whose ware should be finished when it comes out of the kiln. The true pottery method would be to produce glazes which, while they are perfectly fired up or vitrified, have only a surface sheen like that of vellum or egg-shell. The Grueby Pottery Company, of America, have produced some beautiful glazes of this kind, the surface of which breaks in the firing and gives a quality very like that of a melon skin. Messrs. Maw, of Broseley, and the Campbell Tile Company, of Stoke-upon-Trent, as well as Messrs. Doulton, have also produced a series of glazes on tiles and faïence that have this same dull colour.

Their efforts have been directed to the production of glazes at ordinary fire which are devoid of shine, and yet cover the ware evenly and perfectly. The danger of this process lies in the fact that one often has to compromise between a glossy surface and an impervious one. The causes that dull the glaze are apt to leave it so porous that it may absorb smoke and dirt, and thus be difficult to keep clean. Our experiments have, however, convinced me that it is quite possible to produce a dull glaze surface that shall be just as impervious as a brilliant one. At all events, some of our experiments, both on tiles and vases, are here for you to see.

ANCIENT PORTRAITS.

At the Royal Institution on the 28th ult. Professor Percy Gardner began a course of lectures on "Greek and Roman Portrait Sculpture." Dealing in his first lecture with early Greek portraits, he pointed out their ideal character, and compared them in that respect with Plutarch's "Lives," a book which he regretted had lost the place it once held in education. Their systematic study had only become possible within recent years, but now some of the main principles had been laid down, and a beginning of classification made, though much had yet to be done before the science of Greek and Roman portraits was put on the same footing as other branches of archæology, such as the science of coins or of vases. Great difficulties arose from the absence of names in many of the portraits, and from the impossibility of deciding how much in any one was due to the artist and how much to the subject. Professor Gardner then showed photographs of various early portrait sculptures. After discussing the characteristics of two that dated from the sixth century before Christ, he passed to some examples belonging to the fifth century. These, in Aristotelian language, exhibited *ethos* rather than *pathos*. Character, rather than mood, had been aimed at by some great portrait painters of all ages, but attained by none so well as by the Greeks; they cared for the essential rather than the accidental, and aimed not only at the permanent, but at the pleasing. When once a feature of beauty had been marked out it was handed on from school to school, and reproduced in many examples, giving rise to the Greek "stock of beauty." The most characteristic portrait of the fifth century was one of Pericles, the artist of which was almost certainly Cresilas, who "made noble men nobler." Among other portraits shown were likenesses of Herodotus, Thucydides and Anacreon. Of the tragedians Æschylus alone had left no portrait; of Sophocles and Euripides we had satisfactory replicas—of the former in a standing statue preserved in the Lateran Museum, and of the latter in portraits at Berlin and Mantua. Portraits of Greek women were few and far more conventional than those of men, for though we owed to the Greek chisel some of the most lovely types of female beauty in existence, the Greek sculptor did not revel in the beauty of women as in that of men. Concluding with a brief summing-up of the growth of Greek portraiture, the lecturer said that in the early age it was hard to distinguish the figures of men and gods, for but little dignity was given to the latter or individuality to the former. In the time of Phidias and Polycletus undignified subjects and unsatisfactory features were avoided, but in the fourth and third centuries a drift could be traced towards naturalism and individuality, although the portraits were free from slavish adherence to details of accident, and the artist set the man before us rather in the manner of Plutarch than of the modern newspaper interviewer.

THE OLD SCHOOLS QUADRANGLE, OXFORD.

When the stone-work of the inner faces of the Old Schools Quadrangle, which now forms a part of the Bodleian Library, was carried out some twenty-five years ago, the new label bosses were left uncarved, although it appears from the view of the quadrangle in Loggan's "Oxonia Illustrata" (published in 1674) that their predecessors had been fashioned in the shape of conventional heads. These bosses have now been carved, and form a series of portraits of persons connected with the studies prosecuted in the "schools" which formerly occupied what is now the ground floor of the library, or with the history of the library itself, a resident fellow of a college having generously supplemented the grant of Convocation by a sum sufficient to allow of the works being carried out in accordance with this idea. The series of effigies, which are on either side of each door, are as follows:—Old Marble School, Plato and Aristotle; School of Metaphysics, the Lady Margaret (mother of Henry VII.) and William Tyndale; Old Writing School, Bishop Foxe and Cardinal Wolsey; School of Grammar and History, Sir Thomas More and Dean Colet; Logic School, the antiquaries Camden and Selden; Law School, Linacre and Sir Henry Saville; Music School, Archbishop Laud and Lord Clarendon; Natural Philosophy School, Humphrey, Duke of Gloucester and Sir Thomas Bodley. The authorities for the portraits have, for the most part, been found among the Hope collection of engraved portraits. The carving has been executed in a very skilful manner by Mr. E. E. Hammond, acting under the direction of Messrs. Farmer & Brindley.

ENAMELS.

A LECTURE was delivered on Friday last at the Royal Institution by Mr. H. Hardinge Cunynghame on "Enamels." He said that three centuries ago the subject was as well known as now, any improvements being matters of detail. But during the eighteenth century and the early part of the nineteenth the art of enamelling on metal became debased and discontinued, and as no adequate written accounts existed the processes had to a large extent to be rediscovered. This, however, had been so completely done that it might be said with confidence that there was no pigment known to the Mediæval craftsmen which we did not now possess, and that we could imitate and surpass all their colours. Where modern art failed was in the bold and subtle arrangement which ancient art displayed and in the delicate tints which the old workmen knew so well how to use. The lecturer then gave a brief sketch of the history of enamelling, in the course of which he mentioned the chief styles—cloisonné, champlevé, baissetaille, Limoges, Limousin, &c.—and gave a general account of the methods of each. Coming next to the process of making the enamel itself, he showed that true enamel consisted simply of glass, coloured by means of small quantities of iron, cobalt, copper, chromium, &c., and melted on the surface of metals or of pottery by means of intense heat. With the aid of a small furnace he carried out before the audience the manufacture of a specimen of green enamel, and said that it was a scandal that English workers in enamel, instead of preparing their own enamels by processes which were perfectly simple, should choose to go abroad for them and pay 20 f. a kilogramme at Geneva or elsewhere. He then showed how the enamel was put upon the metal to produce the plate upon which the design was subsequently drawn, and shortly described the subsequent operations required to finish the work. In conclusion he said a few words on the manufacture of jewellery, and, lamenting that from the Universities down to the Board schools knowledge seemed to be valued in proportion as it was divorced from practical utility, urged that this unhappy tendency should be counteracted by promoting the knowledge and practice of useful arts, such as enamelling and jewellery, which people might cultivate by their own firesides.

The London Corporation have decided that all trade advertisement boards and tablets should not exceed 2 feet 6 inches by 1 foot 6 inches, with a projection of not more than 3 feet from the building and not less than 10 feet from the ground, and that letting boards should be allowed the same projections.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

Decay of Stone at St. Patrick's Cathedral, Dublin.

Sir,—Your summary of my report on various reparations of this cathedral might be misleading in its brevity on a point regarded of importance.

There was no Caen stone used externally in the restoration by Sir Benjamin Lee Guinness in 1864, which had to do with the nave and transepts. The Caen stone, which has wholly perished, was introduced in a previous restoration of the eastern chapels in 1846 by Dean Pakenham under Mr. Carpenter, architect.—Yours, &c., Thomas Drew, F.R.I.B.A.

March 2, 1901.

Victoria and Albert.

Sir,—Were you to put your readers in possession of my name it could add no weight to my suggestion, and so this must pass for what it is worth, viz., that a ducal statue or group of the late Queen sitting, and her Consort standing beside her, be substituted for the golden image (gilded bronze) now occupying the memorial canopy on the site of the 1851 Exhibition.

There need be no mean or depraved idea attributed, as the memorial is too imperial for Albert alone, and as for its being a money-saving expedient, very probably whatever sums may be raised for hospitals will be universally approved and will be called Victoria and Albert hospitals if the Royal Lady's sentiment in the matter be allowed weight. To erect another such memorial for Victoria alone would involve a greater expenditure, as it would have to be more magnificent and more imperial—there would be difficulties as to choice of site and at last a rivalry distressful to both, could they have had an opportunity of expressing it.

The disposal of the gilded bronze might be on the opposite side of the road, with back to the Albert Hall, but I do not presume to locate it.

I think that if all the Albert memorials we know of were turned into Victoria and Albert memorials, so far from doing despite to either, it would be in sympathy with the sentiment of a devoted couple.—Yours, H. W.

Twentieth Century.

Sir,—I have read with some interest and surprise Mr. Crofts's letter on this subject, and at once admit the perfect consistency of his argument with his dictum, "We have chosen to reckon the years from January 1, 0."

There is, however, no question of choice in the matter. There is no 0 A.D. nor 0 B.C. The commencement of the Christian era was fixed, in the first place, by Dionysius Exiguus, who lived in the beginning of the sixth century, as January 1, 1, and the bull of Pope Gregory confirms his calculations:—"The years are denominated as *years current* from the midnight between December 31 and January 1 immediately subsequent to the birth of Christ, according to the chronological determination of the event by Dionysius."

This date was the 753rd year of the Varronian era and the 4,714th of the Julian period, and, through a gross error in calculation, the *fourth* year of Christ.

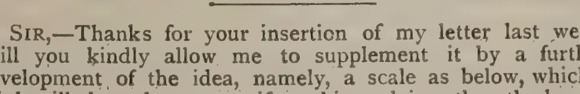
It appears that the Venerable Bede, while agreeing with the date fixed by Dionysius, made the Vulgar era start A.U.C. 754, and it is of course necessary to deduct one year from our era in comparing it with other systems. Thus the invasion of Britain by Julius Cæsar 55 B.C. will on August 26 this year be 1,955 years old.

Doubtless our astronomers and historians would prefer a more exact system of chronology, but, whether correctly started or not, I fancy it will puzzle Mr. Crofts to prove from actual fact that the first century started at 0, and until he can it would certainly be better for him to refrain from any remarks reflecting on the public intelligence.—I am, Sir, yours truly,

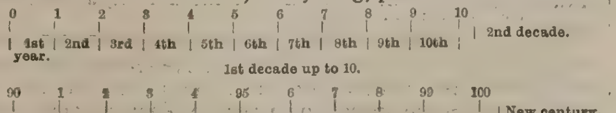
Henry G. Morgan.

P.S.—I have not seen any correspondence prior to the letter of Mr. Crofts.

Sir,—Thanks for your insertion of my letter last week. Will you kindly allow me to supplement it by a further development of the idea, namely, a scale as below, which I think will show the matter, if anything, plainer than the bars.

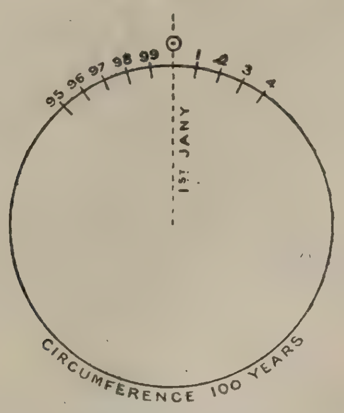


1st decade up to 10.



Last decade, 90 to 100.

And also another illustration, viz. a circle with the circumference divided into 100 parts, which will show that at any point a revolution of the wheel to the same point will give 100 complete years without having to add one more year at the end.



On the principle of the new theorists it would be wrong to say that from 12 o'clock noon on any day to 12 o'clock noon the next day would contain 24 hours, but that you must add another hour and make it 1 before the 24 were complete. This is something like the baker's dozen. I am afraid, however, that working men will not see it in the same light, and give an extra hour's work in the day without payment.

As this counting of the centuries appears to me not a question of opinion, but of fact, I am surprised that the Government has not requested the Astronomer-Royal, who is the national timekeeper, to state positively, according to our mode of measuring time, when centuries begin and end.

It is very confusing to have some people stating that last year belonged to the nineteenth, and some to the twentieth century. I quite agree with Mr. Honeyman that you cannot count time from one but must begin with nought, consequently a century cannot begin from 1, but from a nought; if you make a scale of feet or yards, the left-hand line or division is always a nought. There are some who say that because December 25 was before January 1 that therefore the 25th was one year, and January 1 another year, but if it was intended that the 25th is the exact birthday, why was the beginning of our years and centuries not made to begin from the 25th instead of January 1? But by no stretch of the imagination can you make the seven days previous to January 1 into a full year.

It is quite evident, whoever started the system of counting, that January 1 was taken as the actual birthday, and not December 25. I am afraid that in future generations we, at the beginning of the century, shall be held up to ridicule for making 1901 the beginning of a new century. I may be wrong, but it has not been handed down to us, as far as I know, that the same discussion occurred at the beginning of other centuries.—I am, yours truly,

James N. Crofts.

5 Harrington Street, Liverpool.

GENERAL.

Mr. W. D. Caroë, architect to the Ecclesiastical Commissioners, has been appointed architect to the Dean and Chapter of Canterbury, in room of the late Sir A. W. Blomfield.

The President of the Board of Education has appointed Mr. J. J. H. Teall, F.R.S., as Director of the Geological Survey and Museum of Practical Geology, in succession to Sir Archibald Geikie, retired.

The Windows of Christ Church, Waterloo, are to be filled in with stained glass at a cost of over 4,000*l.*, entirely defrayed by Mr. James Barrow.

The Professor of Fine Art in Oxford University has selected as the subject of his lectures in the Ashmolean Museum "The Founders of the Lombard School, Vincenzo Foppa, Bernardo Zenale and Ambrogio di Fossano (Borgognone)."

Lord Stanley of Alderley intends to ask the Under-Secretary for India who is the official responsible for sanctioning the following act of vandalism at Bijapur in 1895. A fine monument was turned into a house for the deputy engineer, cut up and ruined by lath and plaster partitions and ceilings, divided by floors, and its arabesques defaced by wall-papers. The oratory had been converted into a lady's bedroom, and its delicately-carved mihrab, with a door fitted to it, utilised as a cupboard for hanging up dresses.

The Egyptian Research Account announces the discovery in Upper Egypt of the Royal tomb of Neter-Kha, the king credited with the building of the famous step-pyramid of Saggara. His name appears on a rock in Sinai near others of the fourth dynasty, but relics now being found in his tomb are analogous rather to those of the second dynasty. The nature of the tomb itself is remarkable, and had caused it to be regarded in the past as a fort. The arched roof of its descending stairway is the earliest yet recorded, and carries back the history of the Egyptian arch to 4,000 B.C. The excavations are being made by Mr. J. Garstang.

The Town Council of Cheltenham have decided to seek sanction for the loan of 35,000*l.*, to be applied to the erection of a new town hall.

Lord Rosebery will open the new Art Gallery, Whitechapel, on Tuesday next. There is need of "watchers" and "guides," and any ladies or gentlemen who can undertake either of these duties during the whole or any part of the exhibition are invited to communicate with Mr. Aitken, the curator.

Bishop Chavasse has appointed a commission to consider the circumstances of the various parishes of the diocese of Liverpool, with a view to the formation of new districts and the acquisition of sites for churches.

Sir F. Dixon-Hartland, M.P., chairman of the Thames Conservancy Board, and Lady Dixon-Hartland are defraying the cost of recasting the peal of bells of Sunbury Church, to commemorate the beginning of the new century.

The Roman Pavement discovered three months ago on the outskirts of Dorchester has been successfully transferred by Italian workmen to the Dorset County Museum, and now covers a large part of the floor of that institution. The cost, which was considerable, has been covered by subscriptions. The pavement was given to the museum by Mr. Alfred Pope, a member of the Dorset Antiquarian Society, by whom it was purchased.

The German Emperor has sent a donation of 50*l.* to the Vicar of Grayne (Port Victoria), near Rochester, towards the restoration fund of Grayne Church. Port Victoria is much used by royal personages on their way to and from the Continent. The church is of the eleventh century, and is badly in need of repair. The Vicar has 900*l.*, but 1,100*l.* more is needed.

M. Jules Coutans, the sculptor, has been presented by his friends with a beautiful sword of honour, in commemoration of his recent election to the Académie des Beaux-Arts.

The Cost of the Clyde fortifications, inclusive of the Fort Matilda works, will be 250,000*l.*

The Authorities of the National Gallery of Ireland have purchased seventeen water-colour drawings by the late Sir F. W. Burton, as well as some of his studies of drapery.

Mr. Lionel H. Cust, of the National Portrait Gallery, has been appointed Surveyor of Pictures in Ordinary to His Majesty the King, in succession to Sir J. C. Robinson.

Mdlle Pellechet, a bookseller in Paris, has bequeathed to the Académie des Inscriptions et Belles-Lettres the sum of 300,000 francs. The interest is to be employed in the conservation of monuments in France and the colonies which have archæological or historical interest, especially those not recognised by the French authorities.

Dr. Emil Hübner, the distinguished German philologist and antiquary, has died. He was the son of Julius Hübner, an accomplished artist and teacher of painting. The deceased, who was an admirer of this country, published two works after a visit, "Inscriptiones Britanniae" (Vol. VII. of the "Corpus Inscriptionum Latinarum") and "Inscriptiones Britanniae Christianae."

The King has been pleased to give and grant to a large number of gentlemen license and authority that they may accept and wear the insignia of orders of various grades conferred upon them by the Khedive of Egypt, in recognition of their services in the Egyptian Public Works Department.

The Platt Hall Estate at Rusholme will be offered for sale by auction in June next, if not previously disposed of by private treaty. Unless the estate is sold as a whole the agents will have to consider the best method of disposing of it "piece meal."

The Public Works Committee of the Birmingham Corporation are about to bring forward a proposal to raise 100,000*l.*, which will be expended on wood paving.

Mr. J. H. Eastwood, of Kensington, has prepared plans for the new Roman Catholic Cathedral which is to be erected in Cookridge Street, Leeds, at cost of about 36,000*l.* The style is Late Decorated.

Mr. J. Husband will read a paper at the Institution of Civil Engineers on Tuesday next, upon "The Æsthetic Treatment of Bridges."

In the Limited Competition for the proposed new head offices for the Norwich Union Life Insurance Society, Norwich, the selected design was by Messrs. G. J. & F. W. Skipper, of Norwich; the design placed second, and for which a special premium of 50*l.* was awarded by the directors, although none was offered by the conditions, was by Mr. Arthur R. Mayston, of 7 Great James Street, Bedford Row, W.C.

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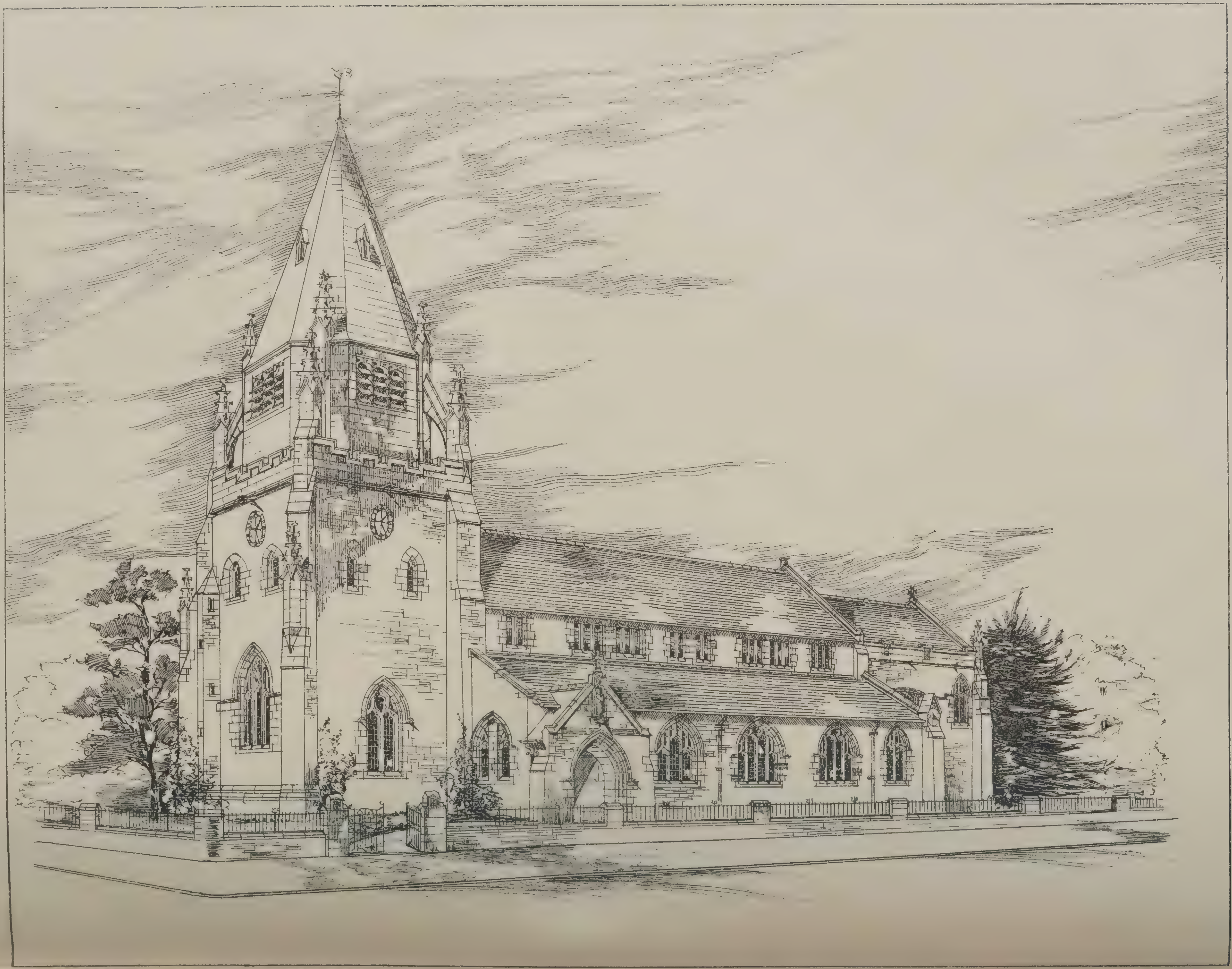

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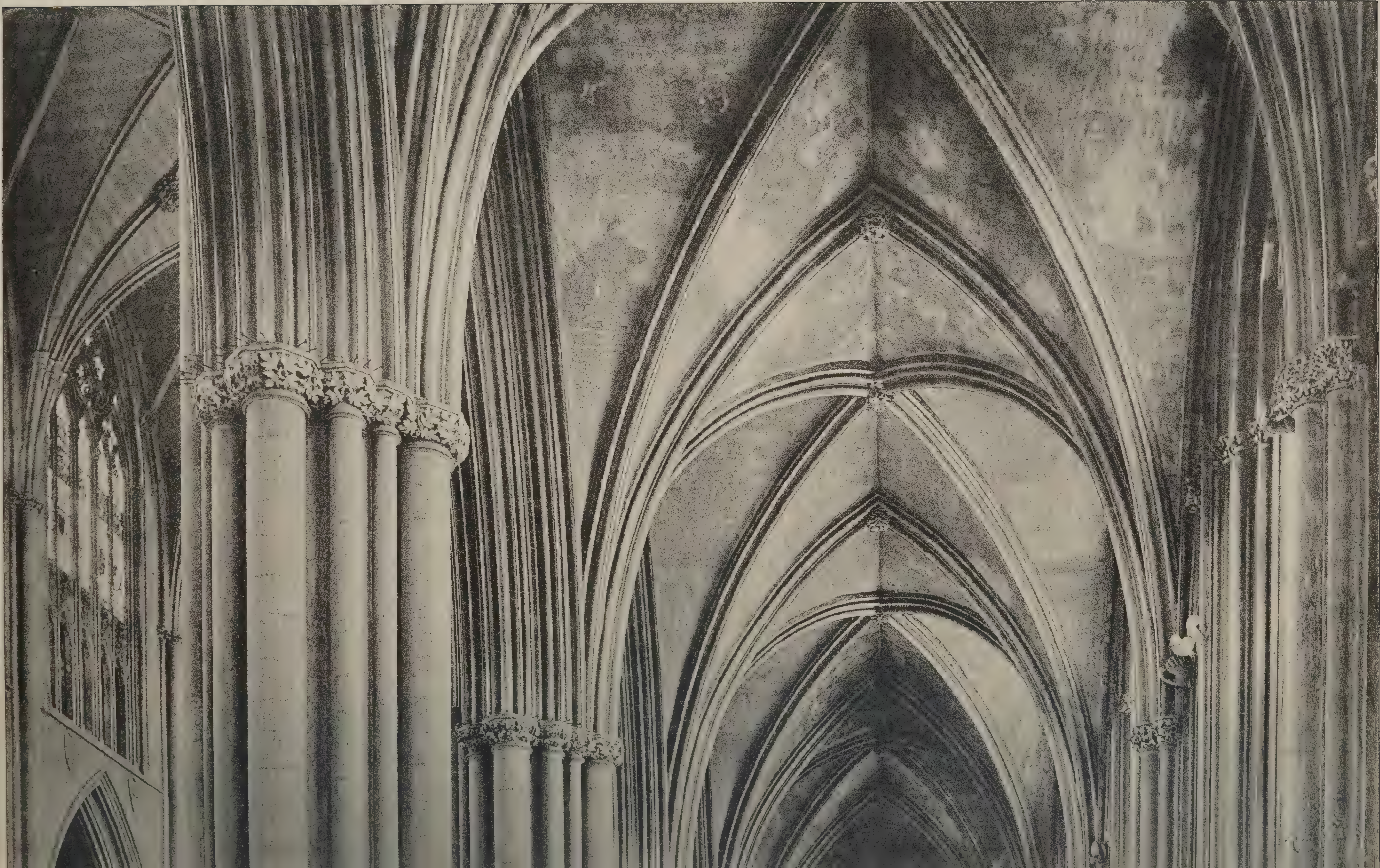

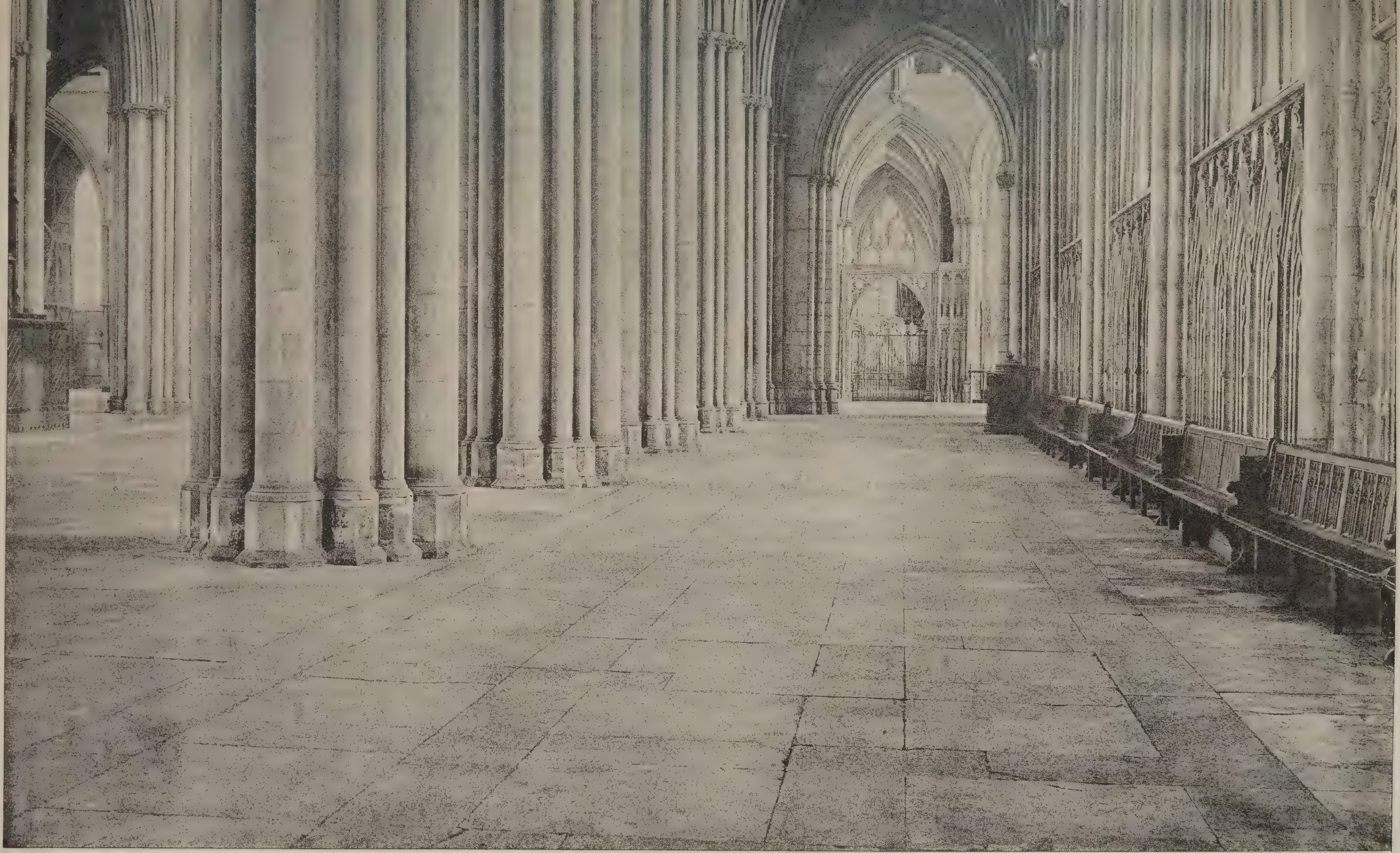

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CATHEDRAL SERIES, No. 322.—YORK MINSTER: SOUTH NAVE AISLE, LOOKING EAST.

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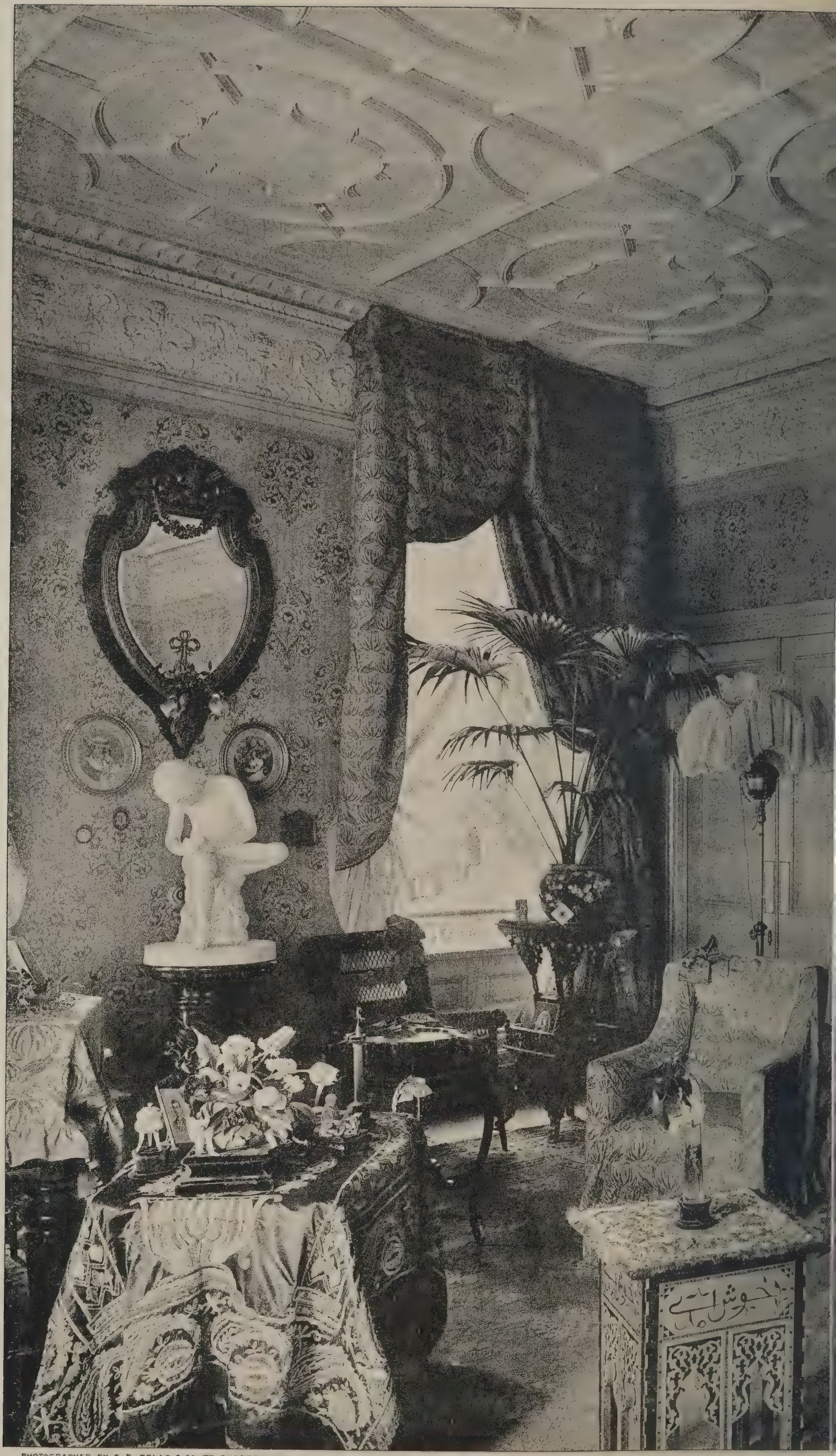

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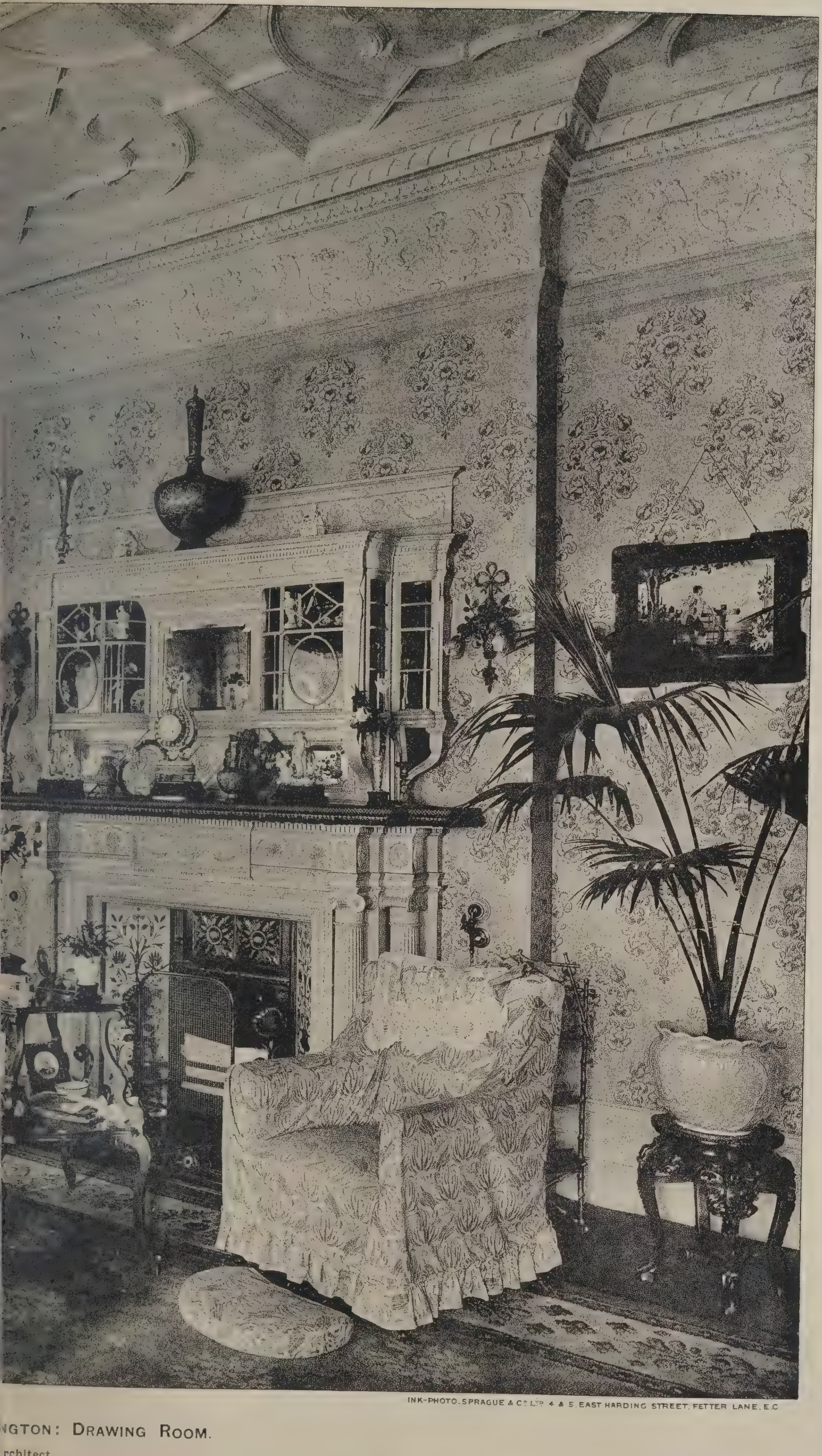

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NGTON: DRAWING ROOM.

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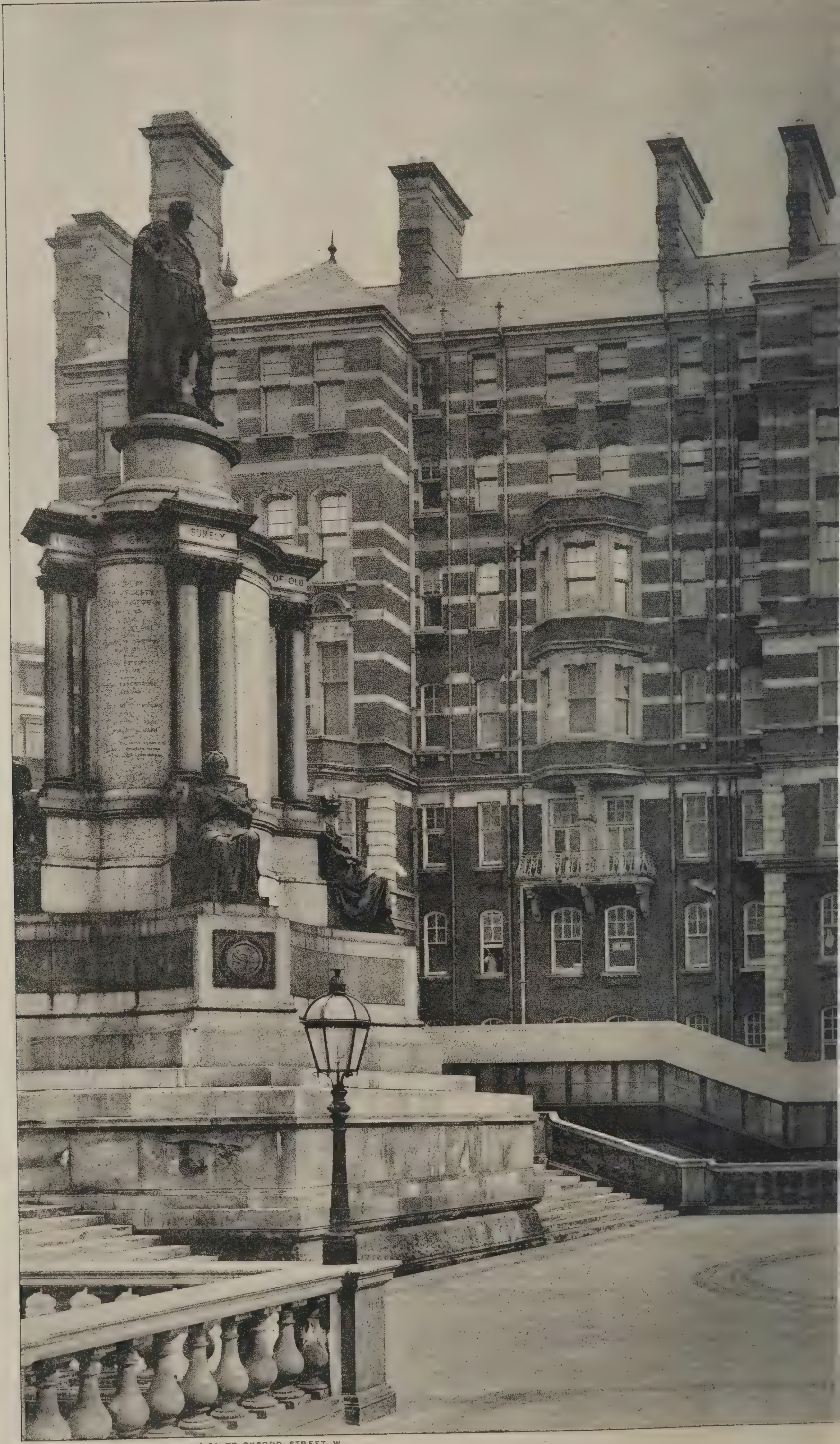

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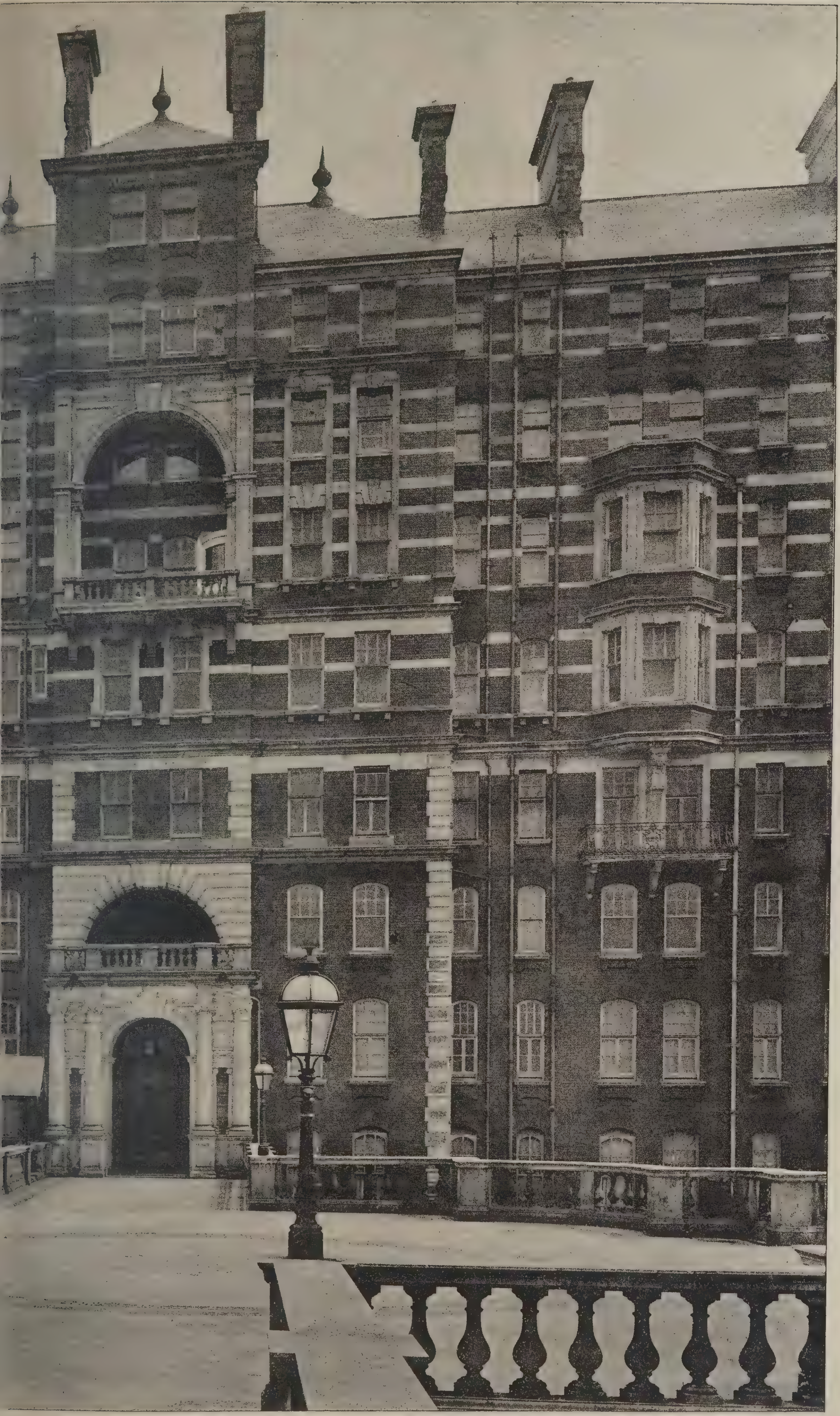
ALBERT COURT, KENSINGTO

R. J.

Mar 8th 1901.



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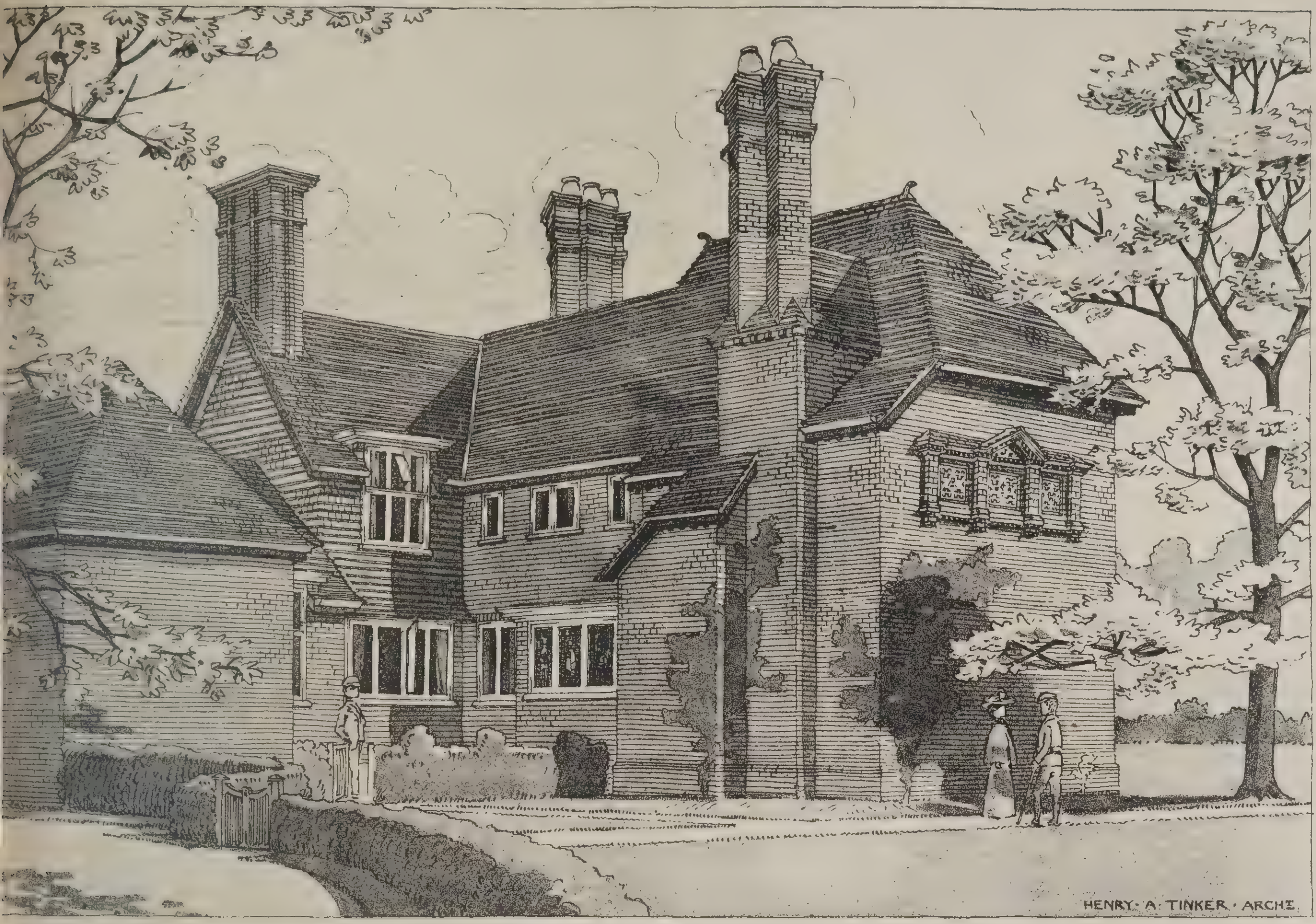
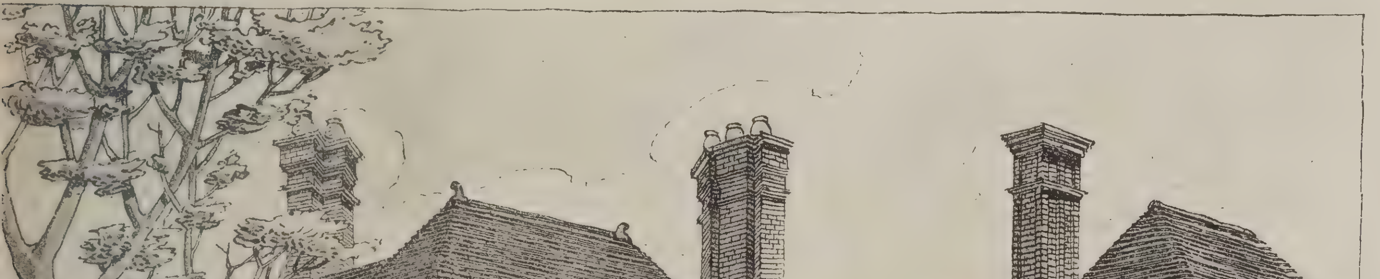
T OF FRONT, FROM TERRACE.

Architect.


HENRY·A·TINKER·ARCHT.

VIEW TOWARDS DRIVE.



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VIEW TOWARDS GARDEN.

NEW WING TO "WHARFENDEN," NEAR FARNBOROUGH.

HENRY A. TINKER, Architect.

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The Architect.

THE WEEK.

An appeal is being made by the National Trust for Places of Historic Interest for subscriptions towards carrying out the necessary reparation of Staple Hall, the old courthouse of Long Crendon, in Buckinghamshire. It is a half-timbered house, which is supposed to date from the fourteenth century. In the hall manor courts have been held during four centuries. The manor was part of the dower of the queen of Henry V. Afterwards it became the property of All Souls College, Oxford, and then passed to the dean and canons of Windsor. The old building is consequently a relic of the past which should be upheld, and as it has become public property—for the National Trust represents public interests—we may be sure that sufficient money will be forthcoming to preserve the hall against the vicissitudes of our changeful climate.

Revivals are so necessary to keep French amateurs in good spirits, nobody in Paris will be surprised to learn that an exhibition of the works of Daumier, the caricaturist, is to be held in the hall of the Ecole des Beaux-Arts. It is the fate of artists of his class to become antiquated more quickly than most others, for the majority of his works are portraits (to some extent distorted) of notabilities who were not destined to be held in enduring remembrance. In the days of Louis Philippe, Daumier's caricatures became a necessity without which Parisians could not live. The *Charivari* containing them formed a gallery in which irreverence was as marked as cleverness. With Daumier, Philipon was associated, and apparently one furnished the ideas while the other realised them. When Frederick Lemaitre revived the old "Auberge des Adrets," the two rascals, Robert Macaire and Bertrand, were accepted by the French as representatives of the majority of mankind. Philipon and Daumier took advantage of the delusion, and the pair of *forçats* were represented in every kind of enterprise which then engaged attention. They became speculators, politicians, lawyers, projectors, philanthropists, officials. They entered the palace as courtiers, and even dared to appear as the king himself and his favourite minister. Such satirical art was a novelty in Paris. But Daumier, at least, could not have found much pleasure in the degradation of his countrymen. He was a true artist, with a love of the beautiful, and the time he could spare from caricaturing was devoted to landscapes and figure-pieces. The public would not buy those works, and after the artist's death piles of pictures by him were sold at one-hundredth part their value. Many of them will appear in the forthcoming exhibition, and they will reveal the unrecognised power of an artist whose ability was supposed to resemble a *farceur's*.

The London Building Act orders that where any person intends to alter or re-erect a building existing either at the commencement of the Act or at any time within seven years previously, such person is to cause plans to be prepared showing the extent of the building, and the plans are to be submitted to the district surveyor, whose certificate is to be evidence of their correctness. Thereupon the person can alter or re-erect the building or structure, otherwise the ordinary procedure is to be followed. It is apparent that the certificate of the district surveyor is a condition precedent to the re-erection of a building. A case was heard last week by Mr. Fordham at the North London police court which gives a legal interpretation of the meaning of the section. W. G. Bush & Co., Limited, arranged to erect a new factory and stables at Hackney. Notice was given on July 13 by the builder. On July 25 the surveyor of Hackney informed the County Council that the buildings were in course of erection. On August 25 the architect submitted a plan of the old buildings to the district surveyor, who certified it. The Council contended that the plan came too late, and that view was adopted by the magistrate. While allowing compliance with the Act, he said the plan should have been produced before the new buildings were commenced. The defendants were fined three guineas, with two guineas costs.

The annual report of the Metropolitan Public Gardens Association is an interesting document for all who live in London. Credit can be claimed for the successful carrying out of about 400 or 500 pieces of work, which means that many recreation-grounds and other open spaces have been directly or indirectly secured. There has been a decrease of 381*l.* in the income, which is ascribed mainly to the war in South Africa. Lord Airlie, one of the vice-chairmen of the Association, was killed near Pretoria. As the organisation must be effective to produce so much success, several public bodies have been in communication with the Association; among others, the City of Chicago Special Park Commission and the American Park and Outdoor Art Association. Among other efforts to be useful was the issue of a circular relating to planting and the preservation of trees in the neighbourhood of London. A copy will be found appended to the report, with a very useful list of the trees and shrubs that are best adapted to thrive in the Metropolitan atmosphere.

The operations at Cerigo must be exciting for all who have the privilege of witnessing them from the deck of the Greek warship *Mykale.* There are several great torsos beneath the waves, and they are not rescued without accidents. One of the discoveries was the body of an immense horse in bronze, but in the transit between the surface of the water and the vessel the cable was broken by the weight and the treasure was again immersed. In such cases the divers declare they have no hope of becoming successful by a renewed attempt. The reports which are made by the men may be exaggerated, but they declare that numerous examples of sculpture are almost entirely buried in sand, or are nearly covered with vegetation. In the course of the operations enough evidence has been discovered to confirm the belief that the sculpture must have formed the cargo of some ancient vessel that was on its way to Rome. The most important of the works recently brought to light is the figure of an enthroned deity in Pergian marble.

The removal of Morrison's Hotel in Dublin, to make way for an insurance office, is like the destruction of an historic landmark. Many people used to believe it was erected as a residence by Sir Richard Morrison, who was the most successful architect of his time in Ireland, and it certainly was more like a mansion than a hotel of a later type. It was not without literary and artistic interest. Charles Lever often utilised it as a temporary abode for some of his delightful characters. Dickens resided there on his visit to Dublin to give readings from his books. When he came back to it on the first night the Boots was waiting for him at the door, and asked, "Whaat sart of a hoose, sur?" On hearing Dickens's satisfactory reply, he exclaimed, "The Lard be praised fur the 'onor o' Dooblin!" The next morning Dickens had a conversation with the landlord's son, a boy of six, who informed him, in reply to the question "What do you know, old fellow?" "I lairn wureds of three sillibils—and wureds of two sillibils—and wureds of one sillibil." The boy also announced he could "make a nought, which is not asy being roond." Morrison's was the headquarters of the Italian opera singers, who regularly visited Dublin after Covent Garden was closed. Giuglini, the tenor, used to find the roof an ideal place for his favourite pastime of kite-flying, the hotel being opposite the College Park; there was not much fear of destruction by contact with chimneys. On the whole, Morrison's might be considered the historical hotel of Dublin, and with its demolition countless interesting associations will cease to be recalled.

The notions which prevail about the enriching power of the Workmen's Compensation Act were well shown in a case which came before the Court of Appeal on Wednesday. The applicant for compensation was a contractor for bricklayer's work, who sustained injuries while engaged in a building operation under the defendant. The County Court judge considered that the applicant, although he was a sub contractor, might be a workman within the meaning of the Act, and accordingly made an award for a weekly payment of 1*l.* The defendant appealed, and their lordships decided that the Act applied to workmen only and not to contractors. Judgment was given for the appellant.

ROYAL MEMORIALS IN LONDON.

THE recommendations of the committee appointed by the King to consider the character of the national memorial of the late Queen Victoria have the advantage of defining what will be deemed most satisfactory by His Majesty. Whatever the memorial, the most prominent feature of it is to be a statue of the Queen. The words evidently mean a combination of sculpture and architecture, and in such a case architectural construction will become an accessory to the representation of the Queen. If the committee have not fixed on the site for the memorial, they have at least suggested the limits within which it will be erected. The memorial will stand either in the neighbourhood of the Abbey and Palace of Westminster or of Buckingham Palace. Much has, therefore, been done to give definiteness to a project about which people of all classes must be anxious.

It is satisfactory to be able to feel that at the present time English architects and English sculptors are far more competent to undertake such a work than were their predecessors when they received commissions for memorials of royalty. Artistic power has been developed, and as a result there are grandiose ideas afloat of which the sculptors in the reigns of the Georges could never have dreamed. The change can be ascribed to various causes. In the first place, there is more acquaintance with the history of art, and the sources of information and suggestiveness have been largely increased. Then it has been realised how much more effective is sculpture when combined with architecture. For memorials which are to stand in the open air, but in proximity to buildings, it is found that massiveness is indispensable. The figure which would serve inside a building or in a niche would produce little effect if it stood in a position where it would be dwarfed by its surroundings. For that reason Mr. J. Oldrid Scott has pointed out that a site near the Victoria Tower would be unsuitable for the proposed memorial. On the other hand, there is a limit to the dimensions of sculpture in stone as in metal, for we are never likely to largely employ a vast number of separate plates to form a figure like the *Liberty* of New York. English sculptors of a past age appeared to be unable to recognise that important fact. They concluded that a statue which had been intended to be placed in a building could be set up in the open air or *vice versâ*, without any diminution to its impressiveness.

Many sculptors accepted the limitations of their own art, and endeavoured to call in the aid of architecture for the purpose of gaining the power which it alone is able to furnish. But in some cases the combination became ridiculous. Flaxman drew attention to the attempts of Bernini in combining the arts. According to him, the Italian sculptor, "in the area before the church of Santa Maria Sopra Minerva, raised a bronze elephant on a pedestal, and on the elephant's back placed an Egyptian obelisk; the architecture of the east window in St. Peter's Church he has loaded with many tons weight of stucco clouds, out of which issue huge rays, intended for light or glory, of the same materials, but long and thick enough for the beams of a house." In these examples we see how an art can fall. English common sense preserved sculptors from a similar bathos. But, as Flaxman says, what can be more ridiculous than "to raise a little pyramid of slab marble, an inch thick, on a neat pedestal, to be the background of sculpture belonging to none of the ancient classes, foisted into architecture, with which it has neither connection nor harmony, and in which it appears equally disgusting and deformed?" The initiative of reform is ascribed by Flaxman to Thomas Banks, R.A., who died nearly a century ago. Banks, however, owed his principles to his father, who was an architect, and from him he acquired the system of employing architecture in conjunction with sculpture advantageously. The endeavour to use pedestals having architectural character is one proof of the care which is now taken by sculptors for the enhancement of their own work. To display the field which architects can provide for the exercise of the sculptor's art, it is only necessary to mention the Albert Memorial. Cavils have been raised against Scott's design, as against every architectural work. But the fact remains that in Europe no modern monument is to be seen in which equal opportunities were offered to sculptors to express the highest qualities of their art. Whether Foley, Bell, M'Dowell, Armistead, Tweed, &c., were equal to the occasion we need not discuss, but the memorial is an object lesson which will enable the King's committee to perceive what is feasible when the architect is permitted to prepare a plan which sculptors can co-operate in realising.

No doubt the memorial in Hyde Park was a very costly work, and the memorials of recent kings that are to be seen in London were generally produced with a view to economy. But it is impossible to express a wealthy nation's grief by the aid of a monument in which the saving of money is shown to be the principal consideration. This fact becomes manifest to anyone gazing at the royal statues, or who recalls the impressions made by them on his mind. Take first the statue of William IV., near the street which was called after the monarch. The figure and pedestal are undoubtedly suggestive of a British naval officer, and the material weight of the granite is unquestionable. The difficulty of carrying such a mass seemed for a time prohibitive of any extension of the underground railway. As there was so little depth available it was feared that neither girders nor an arch could be introduced of adequate strength. The removal of the statue to some other position was contemplated, and it was evident nobody placed any value on it either as a work of art or as a memorial. If it were not for the conservatism of the City authorities the statue of King William would now be seen in some more remote spot. But what was to be expected when only 2,200*l*. was expended on the production of a figure and pedestal 40 feet high? Samuel Nixon, the sculptor, was no mere mechanic; with encouragement he would have ranked high among his brother artists. This is proved by his decorations in Goldsmiths' Hall. But when an artist's labours are reckoned as if by the cubic yard he will not attempt to rival Phidias. The memorial of the Sailor King serves as a block to divide the traffic; it is not regarded as an æsthetic ornament, and future generations will not, from seeing it, appreciate a king who is represented so mechanically.

George IV. does not stand well with later historians. He has been used as a scapegoat, and much of the wickedness of his contemporaries has been cast upon him. But it is of no use to deny that many men who should be good judges of character admired His Majesty's urbanity and friendliness. Whatever were his virtues or his faults, it was necessary to erect a statue of him. Parliament voted 9,000*l*. for the purpose, and a site for the work was found in Trafalgar Square. The name given to the space and the column in the centre show the first intention of Parliament in undertaking the expense of clearing away a large amount of property was that the finest site in Europe should be appropriated to naval heroes. But as George IV. imagined he charged the French in the battle of Waterloo, he may also have thought he directed the movements of a vessel in Trafalgar Bay. So he was put on horseback on a corner pedestal, and, as Thackeray says, it would be impossible for any equestrian to look more uncomfortable. Chantrey secured the commission, and either from honesty or incompetence he did not attempt to hint that George IV.'s departure from life gave rise to a national lamentation. The position of the work is a warning to those who endeavour to make arrangements which future generations are expected to follow. As years run on the equestrian statue will appear more and more out of place, and sooner or later we may expect to hear of proposals for its removal to a site where it will stand alone.

George III. died in 1820, and the strange but modest memorial we see in Cockspur Street was not set up till 1836. Sixteen years can produce many revolutions in the popular judgment of a sovereign, and the object which is seen to-day does not correspond with the great memorial which was originally contemplated. With all his shortcomings George III. was in many respects a typical Englishman, and Gillray expressed the national admiration of him by representing George as the King of Brobdingnag trying to perceive with the aid of a magnifying glass the pigmy Napoleon. It was proposed to show him in a quadriga as if he were a conquering Roman emperor, and atheism, revolutionism and other public dangers were to be seen trampled under the feet of his prancing coursers. Unfortunately there is a difference between promises and performances. The liberal subscriptions which appeared in lists did not reach the treasurer. MATTHEW WYATT'S ambitious scheme was not to be realised. After waiting in patience until the end of 1831, it was resolved that a simple equestrian statue must serve as the memorial. Even by modifying the proposal the committee did not attract sufficient money. After deducting all administrative expenses it was found that the sum available for the statue was only equal to about one-half the amount usually paid for a single standing figure. MATTHEW WYATT became afraid his work would never be cast in bronze, and he expressed his willingness to proceed with the equestrian statue even if he did not receive sufficient money to repay him the wages of his workmen and the outlay on the casting. Other misfortunes arose as the time drew nigh which had been fixed for the erection of the work. An accident occurred in the studio by which a great part of the figure was destroyed. Contention also began over the site. Originally it was arranged that the equestrian statue should be set up in Waterloo Place, where the Guards' Memorial now stands. But it was thought improper that the statue of the Duke of YORK should have the back turned towards the figure of the KING, and another site had then to be obtained. The present site was selected, but application was at once made to the Court of Chancery to prevent the erection of the figure, on the ground that the value of private property would be lessened owing to the neighbourhood of such a work. That claim was not satisfied till almost the moment of unveiling.

When the defects of MATTHEW WYATT'S work are discussed it would be well to recollect the unsatisfactory position in which the sculptor was placed during its execution. He was justified in expecting a fair reward for his services, while he failed to receive more than one-half the sum to which he was lawfully entitled. After some fifteen years, during which the work was subjected to many modifications, WYATT'S original inspiration must have become weakened, and instead of an ideal figure of a king who was supposed to have saved Europe from tyranny, there was only a semblance of a plain country gentleman who was not distinguished for his seat in the saddle.

A repetition of the troubles of MATTHEW WYATT is not likely to arise in connection with the national memorial which is about to be erected. Subscribers are sure to carry out their promises. There will be a generous sum available, and the arrangements will not be of a kind to disappoint the expectations of the artists. It is true that for the last important memorial which represented the feelings of the country, the Duke of WELLINGTON'S monument in St. Paul's, the arrangements were conducted without much respect for the artist or tenderness for a man whose enthusiasm made him indifferent to arithmetic. But statesmen now know that Ayrtonism brought disgrace on England, and a renewal of it would be more discreditable than any Boer defeat. ALFRED STEVENS suffered mental tortures, but we are confident he saved other artists from injustice. The Victorian Memorial will represent a different condition of public feeling, and a happier fate for those who are to have the privilege to take part in its production.

ÆSTHETICS IN BRIDGE BUILDING.

IT indicates a vast change in opinion when we find the Institution of Civil Engineers listening to a paper on the æsthetic treatment of bridge structures and discussing the proposals of the author. Why the subject was not treated at a much earlier time is not easily explained. Bridges, like most other branches of construction, can be made pleasing to the eye, and often the effect of the masonry can be enhanced by the introduction of sculpture. In the Britannia Bridge, which inaugurated a new era of wrought-iron construction, ROBERT STEPHENSON employed figures of lions to mark the entrances to his great tubes, and he also contemplated the erection of an immense figure of Britannia on the central pier in the Menai Strait. Moreover, there is no reason why civil engineers should remain outside the influence of the fine arts. Some amongst them have expended large sums of money on paintings which are supposed to have a beneficial effect on all who look upon them.

The modern indifference to art by bridge designers can be explained with more or less probability on various grounds. In construction tradition counts for much. Men had practised building for a very long time without attempting to construct a bridge. In saying this, of course we exclude China from our purview, for in that land bridge building appears to have been as old as any of the other arts. But in Egypt there were no opportunities offered for bridges, with the exception of the Nile, and to make a roadway across it was impossible until our own times. Some travellers have declared they met with antique arches over streams in Greece, but the evidence on the subject does not satisfy unimaginative archæologists.

Great road-makers like the Romans found they could not proceed in their conquests unless they were able to span rivers and valleys. They had Etruscan precedents for the use of arching, and they took care to improve whatever they borrowed. Now, admirable as are the remains of Roman bridges, it must be owned that they are not remarkable for any more beauty than is to be seen in their large buildings. As in the aqueducts, there is often displayed an ignorance of scientific principles, and there is a great waste of materials. But the engineers attained their end and that was sufficient. Triumphal arches occasionally formed part of the superstructure, and they give some idea of the recognition of the possibilities of beautifying the roadway of a bridge. It would be well if modern engineers could be inspired with a similar spirit. It is possible the bridges had often to be constructed with the utmost expedition, and we ought, perhaps, to be satisfied about their success. But it cannot be claimed for the ruins of Roman bridges that they present much which is instructive to an architect who is investigating the æsthetics of construction.

The Italians took up the subject as it was left by the old Romans. Then that class of work was monopolised by members of the religious orders. With the Romans bridges were aids to invasion. With the monastic architects a bridge became almost an ecclesiastical work, and chapels were substituted for the triumphal arches. The oldest bridges in Florence are associated with the names of FRA. SISTO and FRA. RISTORO, each of whom was a "magister lapidum." As late as 1504 we find an Italian monk employed to construct the new bridge in Paris which was erected over the Seine near Notre Dame. The roadway was 26 feet wide, and on each side were shops and houses four storeys high. SCAMOZZI declared he was acquainted with no bridge that was superior to it. Several other bridges are ascribed to the same architect. In all such cases we may conclude that the chapels and secular buildings which the bridge supported were judged to be the most important part. The bridge itself was only a base, with openings to allow of the passage of water. Bridges in many places served as military outworks, and the remains of them rarely suggest anything more than serviceable structures which were to be as useful in war as in peace. If we wish to consider what could be done by Mediæval masons, it is in arches which were formed in connection with buildings we must seek for proof of constructive power. It is possible that among the Classic work and the Mediæval work which have been removed, bridges may have been found which would still admit of admiration. More than any kind of structure bridges have to submit to destruction. There is no more famous bridge in Europe than that at Prague, every pier of which is surmounted by statues, but no part of it is of older date than 1638.

No country presents a finer variety of bridges than France, and it is there we can best study the possibilities of improvement. The Mediæval brethren who assumed charge of the bridges had somehow gained a surer footing in France than elsewhere. The bridge at Avignon is one of the most pleasing examples of their skill. The bridge of Tournon, which has one arch with a span of 157 feet, was erected from the designs of an Italian resident in the country in the seventeenth century. The love of splendour is shown in the triumphal arch which MANSARD erected to support an equestrian statue of LOUIS XIII. The French engineers were among the first to recognise that a bridge should be horizontal, and in consequence they substituted elliptical arches for segmental. By this means more graceful curves were also introduced. The voussoirs were varied in depth, and they could extend to the under side of the parapet without any appearance of exaggeration. Among the reformers was Perronet, who in the middle of the eighteenth century was appointed Chief Engineer of the Ponts et Chaussées. Although he was engaged in engineering work at the early age of seventeen, his love of beautiful forms made him become a student of the Academy of Arts, and while there he was able to win a prize given by that body for a design for a bridge. Perronet deserves to be regarded rather as an architect than as an engineer in the modern sense of the word. His numerous bridges prove from their excellence that his training should be imitated by all who aspire to erect bridges which will not be admired simply for their utility. He trusted for effect solely to the beauty of his lines, and his principal works will bear comparison with any of those in which sculpture has been introduced. In the descriptions of the works at his bridges there is much which an English engineer would look upon as antiquated. But he had to deal with contractors and workmen of a different class to those at the disposal of English engineers. How Perronet's bridges were constructed we need not inquire; they are the monuments of his genius, and will demonstrate that æsthetics can be useful in bridge building. If the ancient Greeks could have possessed sufficient knowledge of the properties of the arch, and were obliged to unite the two shores of a wide river, they would probably have constructed bridges which would bear resemblance to those with which Perronet endowed France.

Although Perronet set the example of employing elliptic arches, the well-known bridge at Sèvres, which was one of the last works of the First Empire, consists of no less than nine semicircular arches. It is a nuisance to those who navigate the river, but it recalls the spirit of the time when it was erected. The Parisians imagined they were the descendants of the ancient Romans, with whom they endeavoured to identify themselves in many branches of art. The bridge is a direct imitation of ancient work, and on that account many landscapists prefer it to later structures. The Seine in Paris and its vicinity offers many examples which will illustrate the progress of bridge building in stone and metal. The introduction of sculpture was first attempted in the Pont de Jena. Sculptured figures also appeared in the Pont d'Alma, and they form a part of most of the modern bridges. There are always so many good sculptors in Paris it is never difficult to obtain effective sculpture on a large scale. The French are always careful to make several experiments before the work is executed in bronze or stone, and, as a consequence, we do not see that indifference to scale which is common elsewhere.

The traffic of London increases so quickly, the bridges across the Thames become inadequate long before Time has had much effect on the materials or construction. Waterloo Bridge is now the oldest within the London district. If it had been always free from toll we may be certain that cries would be heard for its removal or widening. For there is no doubt it is becoming every year more crowded. The arches are semi-elliptical, or rather they are compound curves of a geometrical sort. But although the bridge is more massive and, it may be, is more suited to its surroundings, it has not the grace we see in some of Perronet's works. The columns of the piers allow of contrast, but they are too obtrusively ornamental. Canova is said to have declared that a sight of Waterloo Bridge was sufficient to repay the trouble of a visit to London, but he applied that form of admiration to so many things in England, it cannot now have much weight. The bridge is a noble work, and if all modern examples were equal to it few complaints would be heard about the disregard of form evinced by the engineers of to-day. When designing London Bridge John Rennie might be thought to have profited by his experience with what was first known as the Strand Bridge. The later work is less impressive when seen from the river. In Waterloo Bridge there are nine openings, in London Bridge there are only five. The proportion between voids and solids is therefore different, and in a monumental work the solids tell. There is less of a contrast in the parts which constitute the faces of London Bridge, but as an example of engineering construction there is no doubt the latter is the more important work. Up to the present Rennie remains the greatest of our bridge builders. His works are noble in their simplicity. He never attempted to produce effects which were unworthy of a great artist, and it is to be regretted that so many engineers of later times have not been guided by his examples and tried to be more emulous of his excellence.

PROPOSED ASSOCIATION DAY SCHOOL.

A SPECIAL general meeting of the Architectural Association was held on Friday evening last at 9 Conduit Street, W., Mr. W. H. Seth-Smith, president, in the chair.

The committee of the Association had considered a project for the establishment of day courses of instruction in architecture. A scheme had been adopted by the committee, and the meeting was convened for its ratification by the ordinary members.

Early in the present session a strong education committee was appointed to consider and report upon the whole subject. This committee consisted of Messrs. Cole A. Adams, F. T. Baggallay, R. S. Balfour, G. B. Carvill, Arthur Cates, B. F. Fletcher, H. L Florence, F. T. W. Goldsmith, H. T. Hare, F. G F. Hooper, P. J. Marvin, E. W. Mountford, Beresford Pite, W. A. Pite, H. W. Pratt, G. H. Fellowes Prynne, E. Howley Sim, H. D. Searles-Wood, W. Howard Seth-Smith, John Slater, Leonard Stokes and Aston Webb, A.R.A. After six meetings their report was presented. The general committee of the A.A. practically adopted the whole report with few amendments. The proposals are as follows:—

(1) That the studio be opened during the day, and that day classes be established forthwith. The work in these classes and in the studio to be of a preparatory and supplementary nature suitable for those who have entered, or are about to enter architects' offices as pupils. (2) That this branch of the work of the Architectural Association be known as the day school, while the present classes be called the evening school. (3) That the first course of studies be arranged to cover one year, but students to be afforded the opportunity of taking a second year in the studio when they might also attend some of the evening classes. (4) That each year be divided into three terms, namely, Autumn, Spring and Summer, consisting as nearly as may be of thirteen weeks each. (5) That the work in the studio be supplemented by a certain number of lectures on history and construction, so that the students may better understand their work (6) That a master of the studio be appointed at a salary to be fixed by the committee, who shall deliver lectures on the history of architecture and elementary building construction. The master to nominate an assistant to help him in the studio, such assistant, if approved, to be remunerated as may be deemed expedient by the committee. (7) That the studio be open from 9.30 A.M. to 5 P.M. (1 P.M. on Saturdays), and that the assistant master be in attendance during these hours. The master himself, however, would attend at stated times to instruct the students and deliver his lectures. (8) That the fee for the full course be 12 guineas per term or 35 guineas per annum, but students taking only the lectures to pay a fee of 2 guineas per term for each course, or 5 guineas per annum. Students wishing to join the day school must submit a letter of recommendation. (9) That after payment of the fees for the first year's course students shall be eligible for election as ordinary members of the Association without paying the usual entrance fee. (10) That students should be encouraged to cultivate a thorough knowledge of the French and German languages (if they have not already acquired same), as these languages are particularly useful for purposes of study and when travelling abroad. (11) That the studio library be augmented as may be found necessary, and be available at all times when the schools are open. (12) That the management of the school be under the direction of the committee of the Architectural Association, assisted by an advisory board of eminent architects and other gentlemen. (13) That the following subjects be included in the curriculum:—

First Year's Course.

(*a*) The use of instruments and scales. (*b*) Freehand drawing. (*c*) The five orders of Classic architecture. (*d*) The elements of the various styles of architecture. (*e*) The principles of mechanics. (*f*) Elementary construction. (*g*) Sketching and measuring details and portions of existing buildings. (*h*) Thirty-six lectures on the history of architecture (illustrated by visits to buildings and museums). (*i*) Thirty-six lectures on elementary construction and materials (illustrated by visits to workshops and buildings in progress).

Each student will be expected to take up a course of reading under the direction of the studio master.

Second Year's Course.

(*a*) Continuation when necessary of the subjects forming the first year's course. (*b*) Perspective and sciography. (*c*) Descriptive and applied geometry and graphic statics. (*d*) Principles of architectural design.

Each student will be expected to take up a course of reading under the direction of the studio master.

Students taking a second year in the studio should attend such lectures or classes, day or evening, as the master may advise.

The master of the studio will direct students as to their vacation studies.

Mr. Aston Webb, A.R.A., in moving the adoption of the above proposals, said they were occasionally told that the ancient buildings were reared without architects at all. Whether there were architects in those times or not, there must have been some person appointed to look after the works. This responsibility was placed upon architects in the present day, and there were likely to be men for some time yet who would practise architecture. The question they had to consider was whether under the present arrangements a young man entering their profession had sufficient advantages for learning all that was essential to his calling. The committee had the idea that the drawing of orders and the inquiry into the elementary problems of stresses and strains, which were the first difficulties a pupil had to encounter when entering an office, might be better taught elsewhere. Judging from his own experience, both as pupil and master, the speaker said he was inclined to think that the drawing of orders and the understanding of the first constructive problems would be better started in their elementary stages under a master than in the fragmentary way they were picked up in an office. Art schools could not properly train the architectural student, as a study of architecture was only a part of their curriculum. Such training as the committee were to give the pupil would be under the control of architects, who would much better know by their own experience the requirements of students than instructors who were not necessarily architects at all. Mr. Webb thought that if principals were in sympathy with the movement the day classes would be a success.

Mr. John Slater seconded the motion, supported by Messrs. Leonard Stokes, A. Stratton, Arnold Mitchell, F. Hooper, H. P. G. Maule and G. B. Carvill.

The President read a letter received from Professor Beresford Pite disapproving of the scheme and dissociating himself from the recommendations of the committee.

The proposals were formally adopted, and the meeting then terminated.

ART IN SOUTH AFRICA.

It is evidence of a more satisfactory state of affairs in South Africa when we find a society for the promotion of art in Cape Town has been amending its rules. Those which are henceforth to be in operation are as follows :—

1. *Name.*—The name of this Society shall be the South African Fine Arts Association.

2. The object of the Association shall be the promotion of the fine arts in this colony. (*a*) Objects : By holding occasional exhibitions of works of art. (*b*) By the establishment of art unions, and by facilitating the purchase or disposal of works of art in connection therewith. (*c*) By rendering financial and other assistance to art education and art students in South Africa. By purchase of works of art as far as the funds of the Association may permit, and by adding such purchases to the national collection now placed in the Art Gallery, Cape Town.

3. *Members.*—The Association shall consist of ordinary members, paying a subscription of 10*s.* per annum, and of life members, becoming such by a donation of not less than 10*l.* to the funds of the Association.

4. *Office Bearers.*—A president and vice-president shall be elected by the members present at the annual general meeting

5. The management of the Association shall be vested in a committee of seven members, including president and vice-president, of whom three shall form a quorum, and such committee shall be elected by ballot at the annual general meeting, and in the event of one or more members of committee ceasing to be such during the year, the committee shall elect one or more members of the Association to fill the vacancies so caused.

6. An honorary treasurer shall also be elected at the annual general meeting, as well as two auditors, who will examine and audit all items of expenditure during the year then past.

7. A secretary shall be appointed and his remuneration fixed by the committee from year to year.

8. *Meetings.*—The annual general meeting shall be held in May in each year, as soon as possible after the second week, when the committee shall furnish a report of the transactions of the Association, and the hon. treasurer shall submit his statement of the financial position of the Association.

9. The committee shall meet for ordinary business on the third Tuesday in the months of January, April, July and October in each year, and at all such other times as the business of the Association may make it desirable.

10. Not less than three days' notice shall be given in writing in the case of committee meetings, and not less than fourteen days' notice in the case of general meetings.

11. *Secretary's Duties.*—It shall be the duty of the secretary to call all meetings at the times above stated, to attend all meetings and keep full and correct minutes of the business transacted at such meetings, to conduct all correspondence, to keep all necessary books and submit the same for inspection by the committee at the meetings if desired to do so.

12. *Purchase of Pictures, &c.*—The Association shall appoint annually from among its members a committee of not less than three or more than five, who shall at a duly called meeting deliberate and decide upon all purchases of works of art out of the funds of the Association, and such sub-committee shall be authorised to instruct a qualified person or persons in Europe with regard to the purchase of works of art on behalf of the Association.

13. The main principles guiding such purchases shall be the following :—(*a*) The pictures shall be the works of artists of merit, irrespective of school ; (*b*) the pictures, by their character and merit, shall be instrumental in forming and educating the public taste and love for art, and be worthy of being placed as examples and models before the art students of the colony.

14. *Special Meetings.*—The committee may call a general meeting of the members for any special purpose, giving notice thereof at least fourteen days before the same is to be held, and the committee shall also call a general meeting on requisition in writing by not less than twelve members, setting forth the object or objects for which such meeting is called, provided that no business shall be brought before any such meeting except that set forth in the said notice and requisition.

15. *Alteration of Rules.*—No alteration of the rules of the Association shall be made except at a general meeting of the Association, and after fourteen days' notice of the proposed alterations.

16. *Dissolution of Association.*—The consent of three-fourths of the members shall be necessary for the dissolution of the Association.

GLASGOW ARCHITECTURAL SOCIETY.

The monthly meeting of the Glasgow Architectural Society was held on Monday night in the rooms, Bath Street, Mr. Lindsay Miller in the chair. The office-bearers for the year were elected, Mr James Chalmers, I.A., being appointed president ; Mr. Ninian Macwhannell, I.A., architect, and Mr. John L. Duncan, decorator, vice-presidents ; Mr. Alexander Gardner, architect, 209 St. Vincent Street, hon. secretary ; and Mr. William Howatt, I.M., measurer, 145 Buchanan Street, hon. treasurer. Mr. Isaac Low, jun., read a paper on "Acetylene Gas." The production of acetylene gas by the action of water on carbide of calcium, he stated, was first discovered by Edmund Davy, a Dublin professor of chemistry, in 1836, and communicated by him in that year to the British Association, but the difficulty in manufacturing the carbide prevented the process getting beyond the stage of a laboratory experiment at that time. After the invention by Siemens of the electric furnace, carbide was accidentally produced by the action of its intense heat on the lime and carbon, which were found to be the most suitable materials for the lining of the furnace, and in 1892 an American chemist also rediscovered carbide in the course of experiments with the metal calcium. It did not, however, become a commercial product till the year 1895. The light produced by acetylene is twelve times as brilliant as that produced by a similar quantity of Glasgow coal gas, and the cost at the present market price of carbide is equal to that of coal gas costing 4*s.* 7½*d.* per 1,000 cubic feet. A description was given of the three main types of apparatus used for the production of the gas—those in which water is dropped on to carbide, those in which water is allowed to rise round carbide, and those in which carbide is dropped into water, preference being given to the latter owing to the smaller amount of heat generated and the greater purity of the gas. Acetylene is more largely used as an illuminant in Germany that in this country, some thirty small towns being lit with it, and there are as well many private installations. Owing to the richness of the gas special burners have to be used. The gas is non-poisonous, and in burning it vitiates the air less than coal gas. On account of its characteristic odour escapes can be easily located, and no special danger attends its production and use. In actinic quality, acetylene approaches sunlight more nearly than any other artificial illuminant, and it is thus specially suitable for matching colours in dull weather. The paper was illustrated by means of the lantern, and Mr. Low demonstrated with the aid of models and apparatus the various methods of production and use of the gas.

ANCIENT PORTRAITS.

IN the second of his lectures on "Greek and Roman Portrait Sculptures," delivered at the Royal Institution, Professor Percy Gardner mainly devoted his attention to later Greek and barbarian portraits. He began, however, with a few earlier ones, showing first a sculpture identified with Alcibiades, who was regarded as a type of beauty of the age, and some representations of Socrates, in which the resemblance to a satyr was emphasised. Then followed two portraits of Plato, the former of which was the only one in existence that bore his name; both were possibly to be referred to the sculptor Silanion. The rise of Macedon was a turning-point in the history of Greece in every respect, and the art of portraiture also underwent great changes. The personality of Alexander itself exercised great influence, his physical features being reproduced in portraits of other men of the period, *e.g.* his generals. Passing to works of the third century, the lecturer said it would be hard to find one more characteristic than that of Demosthenes, in the Vatican, attributed to Polyeuctus. Few were more interesting than a representation of Zeno, which showed a profile essentially Jewish, not Greek, in type, and thus suggested a fact that was sometimes overlooked—the Semitic element in Stoic philosophy. A head of Epicurus might serve to correct a popular impression, for it depicted him not as a sleek sensualist, but as a gentle and self-controlled man. As examples of the fancy portraits the later sculptors loved to invent, the lecturer exhibited a portrait of Homer represented as a very old man, and an ideal head of Sappho, dating from the fourth century, in which the poetess was figured as a young and beautiful woman. A particular class of idealised portraits was exemplified by a statue of a physician in the character of Æsculapius. The portraits of barbarians again presented the difficulty that it could not be said whether they were of the race or the individual. The earlier ones differed from Greeks in dress, armour, &c., not in physical features, but in later examples more realism was attained. Among the works upon which the lecturer commented were the Dying Gaul of the Capitol, heads of German men and women, a head from Madrid which was almost certainly Iberian, another that was Numidian, and last a bronze from the Greek city of Cyrene, of early work and fine style, which showed something of an African type, and was interesting as affording a prototype of the mulatto or quadroon.

ROMAN WALL IN THE OLD BAILEY.

AT a meeting of the London and Middlesex Archæological Association on Monday evening, a paper by Mr. John Terry, city clerk of the works, Guildhall, "On a Recently Discovered Portion of the Roman Wall," was read by the senior hon. secretary, Mr. Charles Welch, F.S.A., owing to the absence of the author through indisposition. These remains were unearthed in March, 1900, about 18 inches below the surface at the rear of No. 8 in the Old Bailey, adjoining the Sessions House. The wall was built about A.D. 380, and extended along the river front from Blackfriars to the Tower, the banks of the Thames being strengthened by piles, and it was finished by bastions and other defences at the angles. The course of the wall ran from the river to Ludgate (to use modern names), then to Newgate, on to a point between St. Bartholomew's and Christ's Hospital, and successively to Aldersgate, Cripplegate and Bishopsgate, whence it was carried south to near where the White Tower now stands. This piece is about 8 feet high, 8 feet 3 inches thick above the foundation, which is 14 inches wider. From the base of the foundation there is 3 feet 6 inches of rubble work of large rag-stones, then come three courses of tiles, then 2 feet 7 inches of smaller rag-stones and two courses of tiles, on the top of which is other rubble work. The interior of the wall is ragstone, roughly tumbled in, and grouted with lime mortar of excellent quality, the whole forming a hard concrete mass. The inner face, where not mutilated, is in a good state of preservation, but the outer face shows the effect of the water of the old Fleet Ditch. Mr. Terry had also sent some notes on the restoration of the bastion of the London Wall in Cripplegate Churchyard. Excavations showed that the foundations were, at least in part, Roman, but in the upper portion, though Roman materials were largely used, the work was Mediæval, and the mortar was of inferior quality. The wall rises 31 feet from the foundations, 18 feet below the ground and 13 feet above, with a width of 3 feet 8 inches at ground level. During the excavation a curious old tunnel-like work was discovered. From a passage in Harrison's "England," this appears to have been a continuation of the work draining the old "More Dich from Bishopsgate to Moregate," in 1638, the rest of the ditch from Moorgate to Cripplegate being arched over ten years later. The thanks of the meeting were awarded to the author, and at the close the audience had an opportunity of inspecting a collection of prints and engravings kindly sent by Mr. George Porter. These comprised illustrations of other portions of the wall that had been brought to light from time to time, antiquities and the old City gates.

LICHFIELD CATHEDRAL.

ON Saturday last thanksgiving services were held for the success of the restoration of Lichfield Cathedral. The Dean stated in a letter to the clergy that at last, after an expenditure of about 105,000*l.*, the fabric of the cathedral was in substantial repair throughout, and, as far as he could judge, all the wealth of statuary and ornamental work destroyed by the Parliamentarians during the siege had been renewed.

Since 1856 the modern restoration has been going on. Bishop Hacket, coming to the episcopal throne in 1661, found the cathedral in a ruinous condition, all the carved work thereof broken down by the axes and hammers of the Puritan iconoclasts, and the central tower and other parts of the structure shattered by the siege which it had undergone by the Parliamentary forces. He set himself to the work of restoration, the story goes, on the day after his arrival, and used his own carriage-horses to draw the material. This is the subject of a memorial window over his tomb in the south aisle of the choir, which was dedicated on Saturday, and which formed the fitting object of the thanksgiving offertories. Though after eight years, "through his own personal labours and munificence, as well as by the offerings of the faithful," Bishop Hacket was able to reopen the cathedral for worship, the restoration was far from complete, and neglect in the succeeding two centuries undid much of the work. From 1856 to 1861 the cathedral was closed, and during that time, in addition to work that was absolutely necessary to prevent the ruin of the fabric, the whitewash was scraped from the walls, the bricks filling up the choir arches were removed and the altar screen and high altar replaced on their original site at the end of the choir. Before that time the choir for many years had extended to the east end, so that there was no lady chapel. The great feature of the second stage of the work, begun in 1877, was the restoration of the famous west front, with its statues of kings, saints and bishops. The hundred odd statues were represented at that time by one row of kings in stucco, the rest of the front being covered with Roman cement and stucco. In 1884, when the cathedral was solemnly reopened with a sermon by Dr. Benson, Archbishop of Canterbury, the stucco had been removed from the whole of the west front and nearly every niche had been filled, one of the statues being that of Queen Victoria. Two additions have just been made to this famous gallery—Dr. Maclagan, Archbishop of York, who was bishop when this part of the cathedral was restored, and who was the preacher at Saturday's service, and Archbishop Theodore, who called St. Chad to the Mercian Church. The organ, which played so magnificent a part in the celebration of the reopening in 1884 and in the most recent thanksgiving, was another of the gifts of the second period. When in 1892 the Dean and Chapter appealed for help in further reparation, 80,000*l.* had been spent on the cathedral, and the works then contemplated were estimated to cost 11,000*l.* These and others have now been carried out. Externally the central tower and spire have been put into structural repair, the buttresses and two of the windows of the lady chapel have been restored, the south transept has been repaired, though the restoration of the buttresses, as not being pressing, has been postponed, while the north aisle, which it was proposed to restore, has been secured only against further decay, the Dean and Chapter having decided to leave this part of the cathedral, with all its special antiquarian beauty and interest, undisturbed. For the same reason they have left the arcading on the west wall of the south transept. It was suggested that the roofs should be raised to their original pitch, and that the stone groining in the nave should be restored; but this was not and is not a pressing work, and there are architectural critics who deprecate it as not worth the 5,000*l.* it would cost.

The loveliest architectural gem, the lady chapel, has been restored. The repaired windows—one in each flank of the apse—and an altar with a carved wood triptych having been provided, the chapel was reopened two or three years ago as a place complete for Divine worship. A similar service has been done at a cost of 1,200*l.* for St. Chad's Chapel, a small square building on an upper floor, entered from a gallery on the south side of the choir. The Dean (Dr. Luckock) has made this his contribution to the restoration. The graceful Early English lancet lights, with their light detached columns, something like those of the chapter-house, have been filled with stained-glass, the groining has been restored, the floor has been laid with marble and mosaic, and an altar with an alabaster reredos, representing the Crucifixion, and matching in its structure the grace of the architecture has been provided. It is impossible even to enumerate the gifts and works of the last eight years. The old consistory court, adjoining the choir, and the old treasury, with its aumbrys, or vaulted cupboards, the muniment-room adjoining the library over the chapter-house and other parts of the cathedral which the havoc wrought in the Civil War or the corroding tooth of time have touched have been brought back to their original beauty and symmetry, and in some cases have been beautified to an extent their designers could not have contemplated. Features of peculiar interest have been unexpectedly brought to light. For instance, in the consistory court, a part of the wall of the second church, dating from 1050, is to be seen, while in the same place the seats are remains of the stalls put into the choir by Bishop Hacket. Of the present choir stalls it may be said that canopies still remain to be supplied. Eighteen windows, four of them of very considerable size, have been filled with stained glass, at a cost of about 4,400*l*, and most of them are memorial gifts or thankofferings. To similar generosity is due the addition of forty-seven statues, twenty-two of alabaster and twenty-five of stone; so that probably no English cathedral can equal this in the richness of its sculpture. Altogether there are considerably over 200 statues, large and small, and no niche which was ever filled is now vacant, though in the historical series room has been vacant. One gift that cannot be passed over is the gift of the large verd-antique marble table, with bronze and glass case, placed in the lady chapel by Mr. Yates Thompson, for the safe custody of the famous MS. of St. Chad's Gospels. While in all the sum asked for was 14,000*l*., the Dean and Chapter have received nearly 24,000*l*., of which about 15,000*l*. has been spent on the fabric, the increased outlay being caused by the discovery that some parts were worse than was estimated. Now, though there is much they would wish to see done, the Dean and Chapter have fulfilled the desire they expressed in 1892 to be able to say that in the nineteenth century "Lichfield Cathedral was not only put in substantial repair, but also exhibited an appearance not far short of its original splendour." Moreover, there is no part of the fabric which causes them any anxiety whatever.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE usual monthly meeting of this Society was held in their library at the Museum, Queen Street, Edinburgh, on Monday evening, Sir Thomas Gibson Carmichael, vice-president, in the chair.

In the first paper, by Dr. D. Christison, secretary, the results of the excavation of the Roman camps or stations at Lyne, in Peebleshire, undertaken by the Society last season, were described and illustrated by lantern views. This camp had attracted less attention of old than the other strongly fortified works of its kind in Scotland, from its lying out of the beaten track of the Roman armies, but it was noticed by Chalmers that its position served to protect the connecting routes between the main east and west lines of communication. Some additional interest was lent to it by its traditional name of Randal's Walls, and as it was not clear that any Roman relics had ever been found on the spot, it was considered desirable to investigate the site completely. Permission having been freely given by Lord Wemyss, the proprietor, and Mr. Ritchie, the tenant, operations were begun last August, and carried on for the space of about three months. After referring to the descriptions of the earthworks at Lyne by Camden, Penicuick, Gordon, Roy and other writers of the last century, and describing the site, on a level plateau in a bend of the Lyne Water, as similar to the sites chosen by the Romans for their stations at Birrens, Ardoch and Camelon, he adverted to the remarkable fact that all the Roman military works as yet excavated in Scotland have proved to be earthworks, notwithstanding the abundance of stone in the country and its frequent use for the buildings within the fortified limits. No other country could show, for such a limited area, so many examples of the skill of Roman military engineers in constructing entrenchments and adapting them to the requirements of the particular sites. Lyne was not inferior to the others in the ingenuity of its defensive details, for there was great diversity not only on the different sides of the fortification, which was in the usual form of an oblong enclosure with parallel sides and rounded corners, but even in positions of the sides themselves. The inner or main rampart, with its trench, alone is carried round all four sides, and is strengthened by other works according to the requirements of the different parts. The four entrances, nearly in the middle of each side, also differed from each other, and from the entrances of all the other Roman works previously examined. After describing these peculiarities in detail, he proceeded to the description of the streets and buildings in the interior, the arrangement of which was nearly similar to that at Birrens and at Ardoch, having a range of solidly-built and buttressed stone buildings across the central part of the enclosure, with two ranges of long, narrow buildings on either side, and a roadway running round the whole, inside the ramparts. The three central blocks of buildings were squares of about 100 feet, and a fourth was about 100 feet by 20 feet. The other buildings were about 150 feet long, the widest about 30 feet in width, and the others about half that width. The whole area enclosed within the ramparts and ditches is about 550 feet by 450 feet, and there are two annexes of about one-fourth that size, which seem also to have been occupied. The relics found were very few, consisting mostly of fragments of Roman pottery, including amphorae and the usual red and black ware, with a few pieces of Samian. Two spear-heads of iron and a quantity of iron nails and indeterminate fragments of iron implements were also found. A few pieces of window-glass, of the usual Roman character, and portions of a square glass bottle and a beaker, and two coins of the early Empire complete the list of the finds.

In the second paper Mr. F. R. Coles, assistant keeper of the museum, gave an account of the stone circles in the Inverurie district of Aberdeenshire, with measured plans and drawings, obtained under the Gunning Fellowship. Referring first to two of the circles in the Banchory district surveyed last year at Echt and Binghill, the former of which is a small circle of eight stones, the tallest of which does not reach 5 feet in height, with remains of several circular stone-settings within its area, and the latter only having four stones remaining, of which one answered to the recumbent stone placed on edge between two pillar-stones on the south-west side of the circle, he then proceeded to describe twenty circles surveyed last autumn in the district of Inverurie. Among the more important of these were the circle of six stones at Tuack, in the area of which the late Mr. C. E. Dalrymple found no fewer than eight interments after cremation, with remains of cinerary urns and one small fragment of bronze; the circle at Castle Fraser, consisting of eleven stones, of which seven or eight are still upright, which also yielded evidence of burnt interments; the circle at Whitehill, Monymusk, originally of thirteen stones, nine of which are now prostrate, and a recumbent stone of about 7 tons in weight; the circle at Old Keig, the recumbent stone of which measures about 18 feet in length and about 4½ feet in breadth and thickness, and must weight about 34 tons; the circle at Cothiemuir, of eight stones, with a recumbent stone of about 20 tons, which is still visited on certain days in autumn, though the reason of its attraction has been forgotten; the circle of Fullerton, which yielded an unburnt interment in the centre when examined by Mr. Dalrymple, with burnt interments in the space around it; the circle at Broomend of Crichie of six stones round the circumference and one in the centre, in the area of which were found many burials after cremation and an unburnt burial in the centre, when examined by Mr. Dalrymple, an ornamented stone hammer and a cinerary urn from it being now preserved in the museum; the circle at Anquhorthies, Manar, of twelve stones, the recumbent stone of which is 12 feet in length and weighs over 8 tons; and the circle of Balquhain, Chapel of Garioch, of seven stones, the recumbent stone being over 12 feet in length and weighing about 10 tons, and a peculiar feature being the presence of a magnificent obelisk-shaped pillar-stone of white quartz. The present year's survey had thus resulted in the determination of six distinct varieties of stone circles, besides supplying measured plans and careful drawings of twenty examples.

In the third paper, Mr. A. J. S. Brook described a bracket clock (circa 1670) said to have belonged to Archbishop Sharp, and another timepiece presented to the University of St. Andrews by the Archbishop. The first clock was bequeathed to the museum by Miss Elizabeth Anne Maclaurin, the sole survivor of the family of the late Mr. Peter Maclaurin, writer, Edinburgh, a friend of Sir Walter Scott. The bequest also included a holograph letter of Sir Walter Scott, thanking Mr. Maclaurin for procuring for him some of the old oak woodwork of the Abbey Church, Dunfermline, and a presentation copy of Sir Walter Scott's poetical works in eight volumes (1822), with the author's autograph. The clock is of peculiar construction, and bears the name of Joseph Knibb, who joined the Clockmakers' Society in London in 1670. The clock has no hands, but shows the hours, quarters and minutes by an arrangement of a revolving dial, in open work, on the upper part of the clock face, which can be lighted by an oil lamp placed inside. There are three timepieces of Joseph Knibb's make in the University Library, St. Andrews, and, though there are now no records of how they came there, there is nothing improbable in the suggestion that they were obtained through Archbishop Sharp.

NOTES AND COMMENTS.

Architects who are entrusted with the decoration of churches will be glad of the decision given in the Pinner case by Sir Arthur Charles as Dean of Arches. In August last an application was made for a faculty for the erection in the church of St. Anselm of a chancel screen which had been presented by a member of the congregation. One of the features of the design was a representation of the Crucifixion with figures of the Blessed Virgin and St. John near the Cross. There was no opposition to the proposal, but Dr. Tristram considered he was bound by the decision in Clifton *v.* Ridsdale, and therefore declined to grant the faculty. An appeal was accordingly brought in the Court of Arches. Sir Arthur Charles reserved his judgment, and it was delivered on Monday last. He was of opinion that the mere possibility of abuse, unless supported by sufficient evidence, was not sufficient to prevent the granting of a faculty. The chancel screen in question was not of the nature of a rood-loft or rood-beam of the kinds known prior to the Reformation. There was a sculptural representation of a group which was capable of artistic treatment. There was no evidence whatever given that the screen or any part of it was likely to be treated otherwise than simply an architectural decoration. Sir Arthur Charles accordingly held that the appeal must be allowed and the faculty granted. The judgment is therefore of great importance, but whether it can be accepted as determining the law in such cases throughout England is by no means certain. The principal point is that the representation of the Crucifixion did not surmount the structure, but was an integral part of it. If screens are treated on the same principle and are not copied from pre-Reformation examples they have a chance of being approved, especially if there is no strong opposition against their use.

Very few of the ordinary visitors to Westminster Abbey have entered the small chapel known as the Chamber of the Pyx. It is believed to be a part of the Confessor's Chapel. It contains a stone altar which was raised by two steps above the general level of the ground. The chamber, which was part of a crypt, was used apparently as the treasury of the Abbey, and became Crown property at the time of the Dissolution. In the reign of Elizabeth it was employed for the preservation of public records. The standards employed by the Goldsmiths' Company for testing the purity and weight of the coinage were kept in the chamber, and as the keys of the doors were held by officers of the Exchequer, it might be supposed to be associated with finance alone. The name Pyx was probably derived from the box containing the standard coins, which would therefore be endowed with an almost sacred character. There are now several ancient chests in the chamber. The chapel has been placed in charge of the Office of Works. In a historical sense any arrangement of the kind is interesting as evidence of the peculiar position of the Abbey, by which it is at once a royal and an ecclesiastical institution.

Good stone is sure of a market if the quarries can only be connected with the sea or with main lines of railway. It would hardly be thought that Nova Scotia would be used to supply stone for distant markets. But in the Wallace district there is a grey stone which has gained a reputation in Canada and the United States, and is consequently much in demand. According to a correspondent of the *Canadian Architect*, huge shipments have been sent to Montreal and Toronto, and to Boston, New York and various New England ports. The quarries are about a quarter of a mile to the rear of the little village and upon a high knoll, in such a position that when once raised from the pits it is very easy to transport the stone to the wharves below, the blocks practically slipping down the hill to the wharf. A large number of powerful derricks are in use and steam-engines furnish the required power. Not only in quarrying and removing but in shipping are the facilities excellent. The harbour is a very safe one, and no tugs are required for the vessels. The sandstone is of a blue grey colour of very even shade, and will retain its colour. It splits very evenly and smoothly, being specially famed on this account for flagstone use, engineering and dimension work in general. The cathedral in Charlottetown is one of the many buildings of Prince Edward Island in which it was used. Sydney, in Nova Scotia, appears to be advancing. There is a trade in timber, and warehouses and manufactories are in course of erection. One iron and steel company are about to erect houses for workmen at a cost of 300,000 dollars. The cost of transport is remarkably low. Another firm are able to bring doors from factories which are 1,200 miles distant, and the freight is no more than 3 cents a door.

An ingenious use of steel plates has been made at a lighthouse at Grande Pointe au Sable in Michigan. The lighthouse, which is about 80 feet high, is formed of brick with a stone base. It was erected in 1867, but almost from its completion it has suffered from the violent rain storms of the district. For a long time pointing was undertaken regularly, but at length it was determined to encase the lighthouse with metal. The bent plates used varied from $\frac{5}{16}$ of an inch to $\frac{3}{16}$ inch in thickness, and they were united by means of angle bars. As a further precaution, a space was allowed between the brickwork and the metalwork, which was filled in with concrete. The work was carried out by Mr. E. L. Woodruff, and the total cost has been about 5,000 dollars. For that outlay a serviceable lighthouse has been secured, and it is believed that owing to the success of the experiment several others of the numerous lighthouses that are required near the big lakes and rivers of America will be treated in a similar way.

A most interesting exhibition is now being arranged in a part of the Louvre facing the Rue de Rivoli. It will consist entirely of examples of decorative art and will occupy fourteen "salles." The entrance will be opposite the Rue de l'Echelle, which is a continuation of the Avenue de l'Opéra. The name, it may be mentioned, arose because the ladder or gallows which belonged to the bishops of Paris used to be set up there. Only a very small portion of the street now remains. It will be necessary to reopen an entrance to the Louvre which has been closed for about thirty years. M. Redon, the architect who has charge of the palatial group of buildings, has had executed a fine grille in wrought-iron and a massive doorway of carved oak, which will take the place of the existing hideous palisade. In the decoration of the "salles" much simplicity has been adopted, for it is felt that the objects to be displayed will not need to be supplemented by rival work.

It is satisfactory to learn that in spite of all dissensions the committee of the Society of French Artists have been able to fix the dates for sending in works for the approaching Salon. On to-day the doors of the Grand Palais will be open for the reception of paintings and drawings, and all works of those classes must be sent in before Wednesday next. It has been ascertained that wall space cannot be found for more than 1,500 paintings and 500 water-colour drawings and designs. Architectural drawings, engravings and etchings will be received from April 1 to April 5. Sculpture will have to be sent in between April 10 and April 12, and examples of the decorative arts on April 16 and April 17. The number of medals awarded this year will be less numerous than formerly, for they will not exceed ninety. Forty will be awarded to painters, twenty-one to sculptors, fourteen to engravers, twelve to architects and three to exhibitors of decorative art.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: SOUTH CHOIR AISLE, LOOKING WEST.

ALBERT COURT, KENSINGTON: FROM SOUTH-WEST.

TURVILLE CHURCH.

ROYAL DUCHESS THEATRE, BALHAM.

THE PARIS EXHIBITION OF 1900.*

(*Concluded from last week.*)

The Petit Palais, by M. Girault.

THIS very fine building, to me the gem of the Exhibition, covers a surface of 7,000 square metres, or nearly 1¾ acres. It is intended, like the grand palace, to be a permanent home for French art, a State museum in fact, and will become the property of the City of Paris, for which the Municipality gave 20 million francs As part of the Exhibition it contained the retrospective exhibit of French art, such as ivory, bronze and ceramic work, furniture, jewellery, glass, &c., from the earliest times to the most recent. In construction it should be noted that in this building steel was used to only a limited extent. The walls were all of rubble faced with ashlar, the vaults and floors of brickwork set in gypsum, and the roofs, with a little steel, covered all. I was very much interested, in 1899, when I had the privilege several times of visiting all the works in progress, of seeing how these particular vaults in the Petit Palais were constructed. They were of brick set in plaster, *i.e.* the plaster of Paris, which is the universal cementing material, without any centreing, only a small curved template being used as a guide; the men worked very rapidly (as plaster sets quickly) in laying the rings or courses of the domes or vaults till the shell was complete; this formed a centre for the next, and even a third, if required, shell on top of this. The cost of this style of work, very light and very strong, was 40 francs per square metre; it was very quickly built, and exerted practically no thrust on the walls. The internal stucco decoration was then laid over the surface of the vault as required

Several developments of the ciment armé were worked out by M. Girault. One corner of the palace was built entirely in cement, with a criss-cross of iron rails bedded in the concrete (38 kilo. the metre, spaced 0·80 cent.), whereas the adjoining walls were on piles in the ordinary way. Then his floors were largely in ciment armé.

In plan this palace was D-shaped, the interior being a garden surrounded by a semicircular colonnade, round which was grouped a double range of galleries in a semi-hexagonal form for the exhibits; the straight part of the D formed the façade, the main entrance being in the centre, leading into a fine domed hall, off which were two lateral galleries at a slightly higher level, and at the ends or corners two saloons, from which one enters upon the galleries at rear. Several modifications were made in the design in M. Girault's final drawings, and even during the progress of the works, in order to harmonise with the great palace opposite. The lateral façades were made more ornamental

In front the chief feature is a semicircular porch, approached by a fine expansive flight of steps, and at the head of this a "gate of honour," with beautifully designed iron gates, gilded. The order employed in the façade is an Ionic one, with lofty bay in the intercolumniations, the shafts being free from the wall, while in the end pavilions the columns repeat the order, but are "engaged" Sculpture is used in abundance, the central porch giving us some very fine "motifs."

Internally the decoration is as surprising as the scheme of the exterior, the vaults and domes being covered with relief ornament and sculpture, very fine in treatment and used unsparingly. The columns and pilasters are of a bright and cheerful pink tone

The loggia surrounding the garden I have already mentioned, but the charm of this portion of the composition cannot be described One sought this corner gratefully, away from the crowd, with intense relief, and one could study at leisure the work of the master-hand who carried off the prize so easily from all his competitors I refer to the architect M. Girault.

From the further side of the loggia we look back at the inner side of the central pavilion, with the dome and gilded lantern rising above, and the pediment with its gilt bronze figures; the spandrels of the large arch had two fine nude figures in bas-relief.

The Pont Alexandre III.

Time presses, and I must go on with the description of the Pont Alexandre III. This, though a purely engineering work, claims our close attention, for were not two of the leading Parisian architects employed to co-operate with the engineers?

Can we point to any such example in England, or even in the world? And what is the result? The finest bridge, considered from either the constructive or decorative aspect, that has yet been seen, retaining its monumental character and bearing a great dignity in spite of its festal decorations. The names of its authors I have already given, but will here repeat them, for they are not to be forgotten—MM. Resal and Alby, the engineers, and MM. Cassien-Bernard and Cousin, their architectural collaborators.

The bridge is constructed entirely of steel, 350 feet in span, in one low sweep, the rise being 6½ metres, composed of fifteen girders (representing the width of the bridge, which is of the noble dimension of 40 metres), each girder being in two pieces, hinged, or articulated at each abutment and in the centre to allow of the necessary spring. The roadway had to be kept level, or nearly so, with the approaches, in order that the vista of the Invalides should not be interfered with when seen from the opposite bank. The cost of the metal-work used in this bridge was about 2¾ million francs, and the accepted tender for the foundations amounted to over 1¾ million more, 12 per cent. below the engineers' price. The contractors were MM. Letellier and Boutringuien, who had already done the foundations of the Pont Mirabeau (one of the newest bridges in Paris), under the same engineers.

The chief decorative features are the pylons, the deck statues, the lamp standards, the parapets and the cartouches. The pylons or monumental piers, 17 metres high, are two at each end of the bridge, with figures representing—

N. side.—France of the Middle Ages, by M. Lenoir; France of to-day, by M. Michel. S. side.—France of the Renaissance, by M. Coutan; France of Louis XIV., by M. Marquesta. On each pylon is a gilt group of Fame and Pegasus, each by a different artist, and designed with great freedom and vigour. Then there are lion groups on each approach.

The strain on the abutments is about 50 kilogrammes per square centimetre. It took over 7,000 tons of steel, all from the Creuzot works of Long Tom fame, laid from a latticed-framed gangway or temporary bridge, first erected to facilitate the placing the girders in position and then removed. The abutments are in granite blocks from the Vosges, the only material, perhaps, that would stand the immense strain. The setting out was so carefully done that on joining up in the centre the discrepancy amounted to seven-tenths of a millimetre on a total length of over 350 feet.

The foundations had to be carried down to a depth of 54 feet on the right bank and nearly 60 feet on the other. Caissons were sunk in the proper positions, and afterwards filled with concrete and granite. Needless to say, compressed air was employed in the subfluvial excavations. Some very massive castings bedded in the abutments receive the ends of the fifteen steel girders, a pin, circular in section, separating the ends of the girders from the cup in the casting to allow of the necessary movement. Each outer girder weighed 167 tons and the others 144 tons. The platform carrying the roadway is supported by vertical members, connected to the longitudinal girders, and then floored over with steel plates rivetted down to the substructure, and extending over the quays as well, where a system of masonry arches takes the place of the steel framing of the bridge.

The Palace of Horticulture.

comes next in order along this bank, designed by M. Charles Gautier. It was constructed wholly of iron and glass, with lateral galleries separated by a central nave, and a rotunda at each end. The framework was of extremely light iron angle-bars and trellis-work in wood, often in very ornamental forms, and groupings were freely used to conceal the ironwork. The dimensions of this palace were 270 feet long, 100 feet wide and 67 feet high.

It is proposed to hand over these buildings to the city, to be re-erected in all probability at Passy, or to be retained in their present position if the municipal authorities so choose.

Pavilion of the Town of Paris.

Then we arrive at the dignified pavilion which the municipality had commissioned the architect, M. Gravigny, to erect—a large and handsome structure, covering more than 5,000 square metres, constructed entirely of timber for easy removal. It contained a very important class of exhibits, embracing the various classes of public works undertaken by the municipality, with curiosities and other things of historical interest and value concerning the city. It was planned with a large central court, surrounded with galleries on the first floor, with central staircases for access to the galleries as the principal feature at each end internally.

Palace of Social Economy, &c.

Passing along we come to the Palace of Social Economy, or the Palais des Congrès, by M. Mewes. It is about 330 feet long and 100 feet wide, and its execution was carried out in a peculiar manner, eight of the best-known co-operative industrial associations combining to do the work. It is entirely of timber covered with "staff," and no steel was used because there happened to be no trade union representing the metal trades. The treatment of the river façade was very broad and simple, standing on piles and encroaching on the river bed. The bays were divided by broad shallow pilasters. It contained, besides galleries for exhibits, ample and lofty rooms for meetings and congresses of all sorts, and was largely used for such during the whole course of the Exhibition.

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* A paper by Mr. E. W. M. Wonnacott, read at the meeting of the Architectural Association on March 1.

Old Paris.

Passing down stream, we come to Old Paris, on the same bank, lending itself to the picturesqueness that would otherwise be wanting on that side of the river. It extended over 750 feet along the right bank, built almost entirely on piles, and in the hands of M. Robida, who was responsible for its restoration, has given us a delightful conception of a Mediæval town. M. Robida was assisted by seven other architects. There were two main "quartiers," that of the Middle Ages and that of the Renaissance. The principal buildings in the Gothic quarter were the Porte St. Michel, the Tour du Louvre, the Rue des Vieilles-Ecoles, the Rue des Remparts, the church of St. Julien des Ménestriers and the Pillory of St. Germain des Près. In the more modern quarter we found the Châtelet, a fragment of the Palais de la Cité (its celebrated Grand Salle), the exterior of the Sainte-Chapelle, the Tour de l'Archevêche and La Foire St. Laurent.

The Champ de Mars.

For these buildings, the four on the flanks and the one at the end, the bill for the iron and steel construction, which was of the most economical materials, came to the little total of 6,000,000 francs. The terraces on which stood the palaces of the Fine and Liberal Arts, by M. Formigé, from the time of the 1889 Exhibition, have been removed, and the inclined plane formed leading up to the Palace of Water and Fire. On our left is the Mining and Metallurgy Palace, by M. Varcellier; next it that of the Textiles, entrusted to M. Blavette. These are balanced by the Civil Engineering and Education Palaces, the former by M. Hermant and the latter by M. Sortais. At the end is the Palace of Mechanical Science, with the grand set piece the Château d'Eau, by M. Paulin, and behind it, only visible as regards its roof, is the Palace of Electricity, which takes the place of the centre dome of the 1889 Exhibition.

The Palace of Mines and Metallurgy, by M. Varcellier, architect.

This is a well-designed building, facing on the central avenue for an extent of 315 feet, and on the return front, parallel to the river, of 250 feet. At the angle where the two fronts join is the entrance, surmounted by a lofty dome, flanked by pavilions, containing each a circular staircase for access to the broad open gallery or loggia on the first floor. The steel framework is covered with wood, over which is the usual wire lathing and plaster painted in a happy scheme of polychrome decoration.

The entrance portion is very striking—striking in more than one sense—for over the porch is a little carillon tower containing a fine peal of bells, which gave much entertainment to the crowds that assembled to hear the performances.

The interior was a vast place of light iron-work, and the exhibits were so treated as to lend themselves to the decoration of the avenues. It was a great surprise to see how such an intractable material in the hands of the manufacturers could be made to follow the most pleasing lines and groupings at will, affording a glimpse of the time when swords shall be beaten into ploughshares, for here were firearms and weapons of offence undergoing all sorts of contortions to present a decorative display.

The Palace of Textiles, the shortened form of the official name, the Palace of Yarns, Cottons and Vestments, was still larger than the last, being 923 feet long by 424 feet wide—by no means a small building. It was undertaken by M. Blavette. It had similar conditions imposed on it as the others of this group, *i.e.* a broad open arcade on the avenue front, the first storey being about 23 feet from the ground.

The large entrance porch was very dignified, and treated, as were nearly all the buildings on the Champ de Mars, with a polychrome scheme in very good taste. The effect at night, too, was very happy. It should be said that this entrance, as well as the one opposite to it, was used to accommodate traffic in the evenings when the galleries and exhibits were closed to the public.

At the end of the Champ de Mars we have the two palaces, or rather one palace in two halves, devoted to mechanical science and to chemical industries, with the masterpiece of M. Paulin in between, the Château d'Eau, closing the vista at the southern end.

It was built on rubble piers, at the head of the immense slope where the fountains and basins were laid out. Its principal feature was the vast architectural niche, 24 metres in diameter, from the head of which issued the water, the fall and jets being arranged in a very artistic manner. Most of this was pumped from the Seine, and was for the use of the boilers and condensers at work close by, as you will presently hear Some charming sculpture and statuary groups, with fantastic and impossible monsters were scattered about, and the fountain jets added to the picturesque grouping and happy disposition of the architectural features of this remarkable piece of work.

But it was at night that one felt the indescribable charm, when lighted up by its thousands of lamps in ever changing harmonies of colour, and one carried away a never-to-be-forgotten picture of this fairy-like grotto that scarcely seemed the work of human hands.

Palace of Electricity, by M. Henard.

This was at the rear of, and masked by, the Château d'Eau, therefore the architect raised the roof of the gallery and threw all his inventive genius into the sky-line he thus formed, a broad open cresting of metal and glass, like lace work by day, and suggestive of a fairy embroidery by night, with its changing lights. In the centre was a figure symbolic of electricity, borne on a car drawn by two symmetrical animals, a Pegasus for the poetry of sea, and a dragon for its material power, backed by a metal sun 40 feet diameter, placed at a height of 66 metres, nearly as high as the towers of Notre-Dame. The palace measures about 230 feet high, and its front extends the whole width of the Champ de Mars avenue, 150 metres long. Its construction was entirely of iron and glass.

It was owing to the enormous machinery power for driving the dynamos, &c., in this building that the vast quantity of water—72,000 litres per minute—was required. This complicated the problem, and resulted in the Château d'Eau being emphasised at the expense of the Palace of Electricity.

M. Henard had also another delightful work in hand, the Hall of Illusions. The astounding effects of changing colour and infinite space that one can scarcely describe were produced by large mirrors and coloured lights.

The Palace of Civil Engineering, by M. Hermant, is the counterpart, as regards size and disposition, of the Palace of Textiles, which it faces. The entrance porch is 27 metres wide. On each side of this is the usual open arcade and gallery, over which is a fine frieze in an appropriate architectural setting, representing the various means of transport, 2¾ metres high, by M. Allard.

Instead of the ordinary iron lathing or wire netting we usually find as the foundation of the decorative plaster-work, the contractors here used flat sheets of metal punched or stamped out into tongues, which projecting formed the key for the plaster.

The Palace of Education, M. Sortais, architect.

This palace, covering over 27,000 square metres, is similar in its general lines to its fellow opposite, the Palace of Mines, first described. Its angle pavilion is very charming, best illustrated by the drawings, with the delightful campanile of about 150 feet high.

The steel construction of this and the last described building (Civil Engineering) was exceedingly economical, being built up entirely of small sections, which meant easy handling, quickness and facility of construction, and cheapness of execution. We again find the open gallery or loggia which was imposed on the architects of the neighbouring buildings.

The Salle des Fêtes, by M. Raulin, was one of the attractions of the Exhibition, and although its fate is not yet settled, it is destined, I trust, to remain for some time to come. It must be remembered that the old Machinery Gallery of the 1889 Exhibition remained standing, and was absorbed into the 1900 one, but the centre portion of this was screened off, forming a square in plan (although the impression to the spectator is a circular plan) and will accommodate 20,000 to 25,000 people. Its dimensions are 535 feet by 460 feet on plan. The dome is 300 feet diameter and is 147 feet from the floor.

It may be that by now it is decided to remove the whole of the old Machinery Gallery, including the Salle des Fêtes, in order that the façade of the Ecole Militaire may be shown more adequately, as intended by its architect, Gabriel. This scheme is favoured by M. Bouvard, architect to the city of Paris, who wishes to turn the Champ de Mars into a fine public park, but the public and the Press are very much against it.

Two artistic façades form the screens which divide the hall from the two ends of the Machinery Gallery. Models and studies were made for this hall to a large scale, allowing all the details to be seen and worked out, leaving nothing to remain to be executed at haphazard. The result was something charming. The coloured glass dome was most happy in its effect, not vulgar, but very soft; the ceiling paintings and reliefs were things deserving of a permanent shrine, and the ironwork supporting the dome and roof was most graceful. The study of this charming interior would well repay a careful student. The four great panels were by M. François Flameng, M. Rochegrosse, M. Maignan and M. Cormon.

Turning our attention to the buildings on the left bank of the river, beginning at the west end and proceeding up stream, we see first the Globe Céleste, the most unfortunate of the private speculations of the Exhibition.

Then we come to the Palace of Forests (with sport generally), over 600 feet long on its river front, constructed entirely of wood, and decorated with the various forestry exhibits and ornamental timbers. It was designed by MM. Tronchet and Rey, who were also entrusted with the neighbouring Palace of Navigation. This was also on the river front, beyond the Pont de Jena, with a façade of 480 feet long. This also was a timber structure, built in a fashion similar to our steel construction, and covered with "staff," the decorative details being most charming, suggested by ships and their trimmings, and affording materials for many hours' sketching.

After this is the Creuzot Pavilion, the exhibit of the great firm of Schneider, who carried out the steelwork of the Pont Alexandre III., a huge domed pavilion, painted in red oxide.

Then we pass on to the Army and Navy Palace, or, to be correct, the Palace of the Land and Sea Forces, an immense building bordering on the river for more than 340 feet in length, designed in a style more or less Mediæval. It was built of wooden framing, trussed up with iron tie rods and bolts, and the plaster covering was attached in slabs nailed to the timbers, then an external finishing coat, and the decorations were laid on this.

Next came the Palace of Hygiene. After that the Pavilion of Mexico, one of the streets of foreign nations.

Passing on and crossing the end of the Pont de l'Alma by another of those picturesque footbridges already mentioned, we enter the Street of Nations, which for the moment I will pass over, and come to the remainder of the Exhibition buildings on the Esplanade des Invalides, returning afterwards to complete our tour of the Exhibition by the Rue des Nations.

In order to preserve the vista ending in the dome of the Invalides, for which the Avenue Nicholas II. and the Pont Alexandre III. were designed, M. Picard, the commissioner, arranged the palaces of the diverse industries on each side of the continuation avenue. Two half palaces at each end and two others in the centre form the group that borders on the east and west sides of the Esplanade des Invalides, all too narrow in width, I may remark. Looking towards the dome, the buildings on the left were reserved for French work, and those on the right for the various foreign nations. All are of the lightest possible construction consistent with safety. Their contents were the exhibits of those industries that minister to luxury and to the surroundings of our public and private life.

The two palaces facing the quay are those of the National Manufactures, with curved porticoes, the work of MM. Toudoin and Pradelle. The slides and drawings will give all the details, and illustrate more fully than my description the richly decorated architecture. In extent these cover a surface of 12,000 square metres. In the large wall surfaces and panels are fine allegorical frescoes by such eminent men as Paul Buffet, Vauthier, Chabas and so on.

Of the two centre palaces looking south, that on the left is by M. Esquie, and is balanced on the right by one similar in extent, and following the general lines, by MM. Larche and Nachon, the delightful details of the latter being suggested and based on the French flora, and reflecting great credit for their freedom and vigour on the designers and sculptors.

These palaces are to shelter the exhibits of the various industries connected with our homes and luxuries, such as decorative furniture, window glass work, goldsmiths' work and jewellery, bronze and iron-work, and so on.

At the south end of the esplanade are two half palaces by M. Tropey-Bailly for ceramic work, which showed up very strong in this Exhibition, and for glass work, with the wonderful Invalides front, on the Rue de Grenelle. This elevation consists of two symmetrical façades, with an exceedingly well treated frieze in bas-relief representing the Decorative Arts and Labour. Notice must also be taken of the graceful pinnacles in white and gold, and of the two pavilions immediately inside the entrance, with the semicircular hollowed fronts forming a charming little circus. The grouping, and in fact, the general arrangement and treatment of M. Tropey-Bailly's work is most happy.

In front of the half pavilion stood a remarkable exhibit of Sèvres ceramic ware, the fountain, which may be seen in some views. This is destined to stand in the Champs-Elysées after that thoroughfare has recovered from the upheaval caused by the Exhibition works.

The portico, too, in Sèvres ware, which stood in the Esplanade des Invalides, is destined to be re-erected in the Square of St. Germain des Près or its immediate neighbourhood.

The Street of Nations.

The more important buildings are near the Pont des Invalides, where the Rue des Nations commences.

The British Pavilion

was very small beside some of its neighbours. It was intended by the British Commission to make this the special show of our native construction and decoration, and the plan decided on was to reproduce an old English manor-house. Mr. Lutyens was entrusted with the commission, and he has given us in the north front a replica of that of Kingston House, near Bath, the other façades being adapted from contemporary buildings.

Its construction was entirely of steel framework, for easy and future removal, for which Sir B. Baker was responsible. Various well-known firms undertook the decoration and furnishing of the interior. The city of Bath sent the pieces of Elizabethan work in the library; the great gallery was adapted from the Cartoon Gallery at Knole, near Sevenoaks.

It would be impossible to name in detail all the firms who have contributed, but I must here thank Mr. Geo. Wragge for the loan of some photos and a cartoon of his stained-glass windows in the dining-room. This has been dismantled, and possibly at the present moment has been entirely removed

It is at present uncertain if any of the foreign pavilions will be preserved, for the matter is still under discussion. Several schemes are in the air, but in all probability the whole or the majority of the pavilions will be removed.

Numerous lantern slides illustrated the paper.

Mr. C. H. Brodie proposed a vote of thanks to the lecturer. Mr. Bamford Slack seconded, and the motion was carried unanimously.

DISCOVERIES AT ABYDOS.

THE following account of the results of the recent exploration has been furnished by Professor Flinders Petrie :—

The continuation of the work of the Egypt Exploration Fund on the Royal Tombs of the first Egyptian dynasties has proved in some respects more surprising than that of last year. We are now able to trace out the regular development of the civilisation during some 400 years; from the time when writing was but rarely used, and then only in a rude and pictorial stage, down to the common use of delicately figured hieroglyphs indistinguishable from those used for thousands of years after. We have now in our hands the beautifully wrought jewellery and gold work, the minutely engraved ivories, the toilet objects of Menes, the founder of the monarchy, and his successor, fashioned more than 6,500 years ago. The following summary will give an idea of the gain of knowledge in the last three months.

Of Menes and his predecessors there are about thirty inscriptions and labels in stone and ivory. From these we learn certainly the names of three kings—Narmer, Ka, and a name written with a fish sign. Perhaps also Det and Sam are two other names, but they are more probably word-signs. Among these works of Menes are parts of four ebony tablets with figures and inscriptions, one apparently showing a human sacrifice. The strangest object is a massive strip of gold of unknown use, with the name of Menes (Aha) upon it.

Of Zer, the successor of Menes, the astonishing find is the forearm of his queen, still in its wrappings, with four splendid bracelets intact. One is a series of figures of the royal hawk perched on the tomb, thirteen figures in cast and chased gold alternating with fourteen carved in turquoise. The second bracelet is of spiral beads of gold and lazuli in three groups. The third bracelet is of four groups of hour-glass beads, amethyst between gold, with connections of gold and turquoise. The fourth has a centrepiece of gold, copied from the rosette seed of a plant, with amethyst and turquoise beads and bands of braided gold wire. This brilliant and exquisitely finished group of jewellery shows what a high level was already attained at the beginning of the First Dynasty. It is 2,000 years older than the jewellery of Dahshur, the oldest yet known; and it has the great advantage of being carefully examined as found, and restrung in its exact arrangement. The arm of the queen had been broken off by the first plunderers and laid in a hole in the wall of the tomb; there it had remained neglected by the four parties in ancient and modern times, who had successively cleared out the tomb.

Of the same king there are some forty inscribed pieces of ivory and stone and two lions carved in ivory. Also the great royal tombstone has been found in pieces and rejoined. About sixty private tombstones give us the names in use in the royal household; many formed from the goddess Neith, but not one from Isis.

Of King Den, the fifth of the First Dynasty, a dozen inscribed ivories have been found, including the handle of the royal land-measuring cord. Also an impress of a beautiful royal seal, showing the king wrestling with a hippopotamus and spearing a crocodile. About twenty private tombstones of this reign, much elaborately-carved slate and bows and arrows are also before us.

Coming to the Second Dynasty, the tomb of Perabsen yielded a large tombstone of the king carved in syenite; also the names of his three predecessors carved on stone bowls. These are Hotep-ahaui, Ra-neb and Neteren, as on the small granite statue, No. 1, at the Cairo Museum. From these we see that Perabsen was probably the fourth king of the dynasty. His successor, apparently, was Kha-sekhemui, whose tomb we have mostly cleared. From it we have the royal sceptre, formed of cylinders of sard, held together by a copper rod in the axis, and with gold bands at intervals; there remains

28 inches length, but the lower end is lost. There are also seven stone vases with gold covers fastened on with twisted gold wire, two gold bracelets, twenty copper dishes, dozens of copper models of tools, copper axes, fruit knives and a perfect dish of diorite.

All of these, it must be remembered, are but the oversight of many plunderers, ancient and modern. We have had to search many thousands of tons of sand and rubbish, all of which had been turned over and left as done with only three years ago by the last explorer. It was necessary to do this again in order to get the scientific results of the plans and order of the tombs which had been neglected, and we have been otherwise repaid. Thanks to the constant labour of my party the material for the next volume is mostly ready in photographs and drawings, and I hope to issue it at the usual July exhibition at University College, London, where many of these discoveries will be shown. It remains for the public who care for history and art to see that such research is reasonably supported.

REGISTRATION IN ILLINOIS.*

In continental Europe the profession of architecture can only be entered after a full course of technical studies in a school of architecture, a term of practical experience, and by passing a severe examination by State authority. This insures the possession of an amount of professional knowledge and experience at least equalling the requirements for admission to the profession of law and medicine. It results that the duties, powers and remuneration of an architect are more clearly defined, and his responsibility for his work is greater than is the case in the United States, where the profession is practically open to any person possessing the moderate capital necessary to equip an office, and who can secure some confiding clients.

This condition of affairs was long since considered objectionable by thoughtful architects, who agreed that at least a minimum professional knowledge should be possessed by every architect, and that, like law and medicine, this profession should be protected from ignorant and dishonest pretenders, dangerous to life and health, and promoting large expenditures of money, producing neither good architecture nor any adequate financial return.

The average citizen is frequently unable to distinguish between scientific physicians and quacks; he is still less likely to appreciate the great difference between a competent architect and one ignorant of sanitation, of the principles of construction, relying entirely on Divine Providence to sustain his buildings until after the collection of his commission.

The most feasible and effective method of regulating the architectural profession is the enactment of a license law, requiring some examination of the professional qualifications of architects, and exercising some control over practice, with the punishment of dishonest acts. Such a law is quite similar to the laws regulating the practice of law, medicine and pharmacy, now existing in nearly all civilised communities. It can only be based on the police powers of a State to protect the lives, health and property of its citizens, because a law authorising inquiry into matters of taste and style would probably be adjudged to be unconstitutional. Americans have an inalienable right to spend their money in erecting buildings that are masterpieces of ugliness, so long as these do not endanger the health and lives of their occupants or of their neighbours, and this right cannot be abridged any more than their right to employ physicians of any "pathy" or lawyers belonging to any party.

New York was probably the first State to pass such a license law for architects, but this Act was summarily vetoed by Governor Flower, who regarded it as merely a means for organising a professional trade union, thus being purely class legislation. Similar laws have been proposed in other States, especially in Ohio, Missouri and Texas, but no such law has been enacted except in Illinois.

As early as 1895, at least, a license law was drafted by a committee of the Chapter of the American Institute of Architects in Chicago, being chiefly the work of the late Dankmar Adler, of Chicago, who devoted much very valuable time and thought to this subject. The same committee appears to have endeavoured to induce the legislature to favourably consider and pass this law, but it never passed the initial stage.

Some changes were made, and a Bill embodying it was introduced in 1897 by Hon. C. W. Nothnagel, an architect practising in Chicago, then a member of the legislature, seconded by a committee of Chicago architects. To the general surprise of the profession these efforts were successful, the law was enacted and approved by the Governor. A few amendments to remedy defects were further made in 1899.

The chief points of the present law are as follows:—

Each practising architect must procure a license, obtain a personal seal bearing his name and address, and impress this on all working drawings and specifications issued from his office. This locates the personal responsibility for defective construction and for injuries to life or health. This license may be revoked for nonpayment of annual fee, and restored on payment thereof. Or it may be revoked for incompetency, recklessness or dishonest practices after due trial before the board. Penalty of from 50 dols. to 500 dols. per week is provided for practising architecture without a license, and the board is required to prosecute all violations and is authorised to expend funds for this purpose. These penalties are not received by the board, but are paid into the local school fund, I believe.

In order to avoid any strong opposition to the enactment of this law it was considered necessary to make two concessions, whose effect is temporarily injurious, but this condition is rapidly improving.

1. License without examination. Any person practising architecture as a profession on July 1, 1897, the time at which the law went into effect, was entitled to a license without examination of his qualifications, provided he made application before January 1, 1898, and furnished satisfactory proofs of the fact. Although a careful investigation of the evidence was made in each case, the competency of the applicant could not be considered, and it is probable that a considerable number of incompetent men were necessarily licensed, to the disgust of some fully qualified practitioners. But it is certain that without this provision strenuous opposition to the law would have been made by prominent architects, who regarded any examination into their competency as humiliating and as a possible means of injury that might be utilised by professional rivals. But a single architect, entitled to license on account of practice, has ever voluntarily taken the examinations prescribed by the law. However, this mode of obtaining license became impossible after January 1, 1898, and the holders of this class of licenses are being rapidly replaced by those licensed after careful examination of their professional qualifications and experience, as provided in the law. Nearly one-sixth of the entire number have been thus replaced by younger and competent men within the past three years, so that at the end of fifteen years from this time very few will be left, and the architects in Illinois will form a professional body unequalled in professional equipment in any other State.

2. Contractors may make their working plans without obtaining license or using a seal. It is common for large contractors to furnish their own plans and specifications, accompanying these with a bid for the work, just like builders of steel bridges. When such plans are offered for bids from others and the work is let to another contractor, the author of the plans becomes an architect practising without license, and is liable to the penalties of the law. This provision was inserted to avoid opposition of large contractors, but its operation is practically prevented in Chicago, where an ordinance authorises the issue of building permits only for plans stamped with the seal of a licensed architect. This ordinance has practically compelled railways, builders of steel structures and manufacturing companies erecting their own buildings to place their work in charge of an employé possessing a license. This provision of the law should be cancelled, since no reason exists why any distinction should be made in the responsibility for buildings, whether the designer and superintendent be a professional architect or an experienced contractor.

The law defines an architect as being professionally engaged in preparing plans and specifications for buildings, which are further defined as structures possessing foundations, walls and roof, which includes some classes of engineering structures, and therefore engineers engaged in designing such structures are required to obtain licenses. This is simply just, because it would be improper to permit an engineer to practise architecture without a license, just as he would not be permitted to plead in a court of law without having been admitted to the bar.

The statement has sometimes been made that the law practically prevents non-resident architects from practising in Illinois. But this is entirely untrue, for such architects may obtain licenses on exactly the same terms as those resident within the State. A considerable number of such licenses have been issued to architects residing in Boston, Cincinnati, St. Louis and in various cities in Indiana.

In accordance with the provisions of the Act the Governor appointed a Board of Examiners to execute the license law, consisting of Hon. Dankmar Adler, president of the board for the first two years, Peter B. Wight, its secretary, W H Reeves, W. C. Zimmerman and N. C. Ricker.

This board first met and organised on September 3, 1897, and since no forms nor precedents for conducting its business existed, it first became necessary to prepare a series of blank forms and to arrange a system for handling the work, that should insure justice to all applicants and speedy decisions in all cases. A blank application was sent to all applicants to be properly filled out and accompanied by an affidavit.

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* A paper read before the Illinois Society of Engineers and Surveyors by Professor N. Clifford Ricker, president of the State Board of Examiners.

As a check on the statements made in the application, the names of two buildings were required, for which the applicant had been employed as architect, together with the names and addresses of their owners. Letters to these owners soon elicited the facts, whether the applicant had actually been the architect of the building or merely a contractor for its construction. If satisfactory replies were received and personal knowledge or inquiries made by the board corroborated this information, the license was issued. It was manifestly impossible for any member of the board to have personal knowledge of each of the 800 applicants for license on account of practice. But if it appeared that the applicant was merely a contractor, superintendent, or mechanic employed on the building, or if by a singular mental error he had named a building with which he had no connection whatever, the case was laid aside and the applicant was requested to furnish more evidence.

As the time limit for filing applications at January 1, 1898, approached, the board was almost swamped with applications, so that weekly meetings were held for several months, disposing of all cases on file soon after that date, excepting those of very doubtful character.

Many amusing experiences occurred, especially when requests to forward "them licenses" were received with promise of prompt payment by return mail. One "electro" architect applied, who showed that he had designed some cottages costing as much as several hundred dollars apiece, and apparently taking his title from the electrotypes used for embellishing his advertising circular.

It was quite common for a doubtful candidate to obtain remarkable certificates of professional competency from his townsmen, believing that such papers would paralyse the board. It was often interesting to learn that in the opinion of his friends, Mr. Blank, of Podunk, was the professional equal of any Chicago architect, thus giving to fame the name of a practitioner hitherto unknown to the profession. It was generally found that these certificates formed the chief qualification of the applicant, although the citizens sometimes expressed themselves entirely satisfied with his work and saw no reason why the State should interfere.

The dire vengeance of local political bosses and of legislators was occasionally threatened if a license were refused, but this vengeance always failed to materialise, possibly because architects seldom have much time to devote to practical politics and to acquire such influence.

About 800 applications for license on account of practice were filed, and of these about 700 were granted after a very careful and patient consideration of each case, with a disposition to interpret and administer the law as leniently as possible. More than 500 of these were issued to architects practising in Chicago or its suburbs, which, indeed, seemed to be a large number for a city where building had been almost prevented since 1892 by hard times and by disputes between contractors and trade unions. About 150 architects were licensed in the remainder of the State, and a score or more non-residents obtained license. The number of applicants was indeed surprising, since no member of the board would have expected to find more than 400 architects practising within the State.

Besides the great number of architects in Chicago, other evidence demonstrated its vastness and its un-Americanised foreign population, for a Bohemian architect was found there practising entirely among his compatriots, who actually used specifications printed and written in the Bohemian language. It was even necessary to employ an interpreter at his appearance before the board.

After January 1 a new form of application blank was used, together with a different form of license, stating that its possessor had passed a satisfactory examination of his professional qualifications as prescribed by the law. This application for examination and license specifies the education and professional training of the candidate, the nature of his employment for the five years previous, and names any buildings designed by him. Working drawings and specifications of these buildings may be sent in, and resident architects are required to personally appear before the board for oral examination. If this evidence and the qualification of the applicant appear inferior to those required in the class examination, he is directed to appear at the next class examination, which is entirely written, continues for two and a half or three days, and is conducted by a committee of three members of the board, which marks the papers, identified by numbers only.

Two or three class examinations have been held annually, alternately in Chicago and at the University of Illinois. These relate only to the five points specified in the license law:—

"The examination shall have special reference to the construction of buildings and a test of the knowledge of the candidate of the strength of materials, and of his or her ability to make practical application of such knowledge in the ordinary professional work of an architect and in the duties of a supervisor of mechanical work on buildings, and should also seek to determine his or her knowledge of the laws of sanitation as applied to buildings."

As before stated, no inquiry on any other subjects is authorised. Those specified are within the police powers of the State, upon which the law is based.

These examinations have been carefully arranged so as to place on equal footing the graduate from a school of architecture, the man trained in the office of an architect, or the competent mechanic or superintendent, educated by experience and private study. Possession of the required knowledge is essential, no matter where obtained. All kinds of candidates have been examined, from the simple mechanic or draughtsman to the graduate of the best French school with a diploma entitling him to practise architecture in France.

Up to this time 186 applications for examination and license have been received, and 120 of these candidates, or nearly two-thirds, have successfully passed the examinations and licenses have been issued. This makes a total of about 820 licenses issued, about 670 of these being now in force, showing a loss of about 150 architects.

This loss is caused by deaths, by removal from the State, by abandoning the profession, &c., but chiefly by revocation of licenses for failure to pay the annual renewal fee. It has doubtless chiefly occurred among architects licensed on account of practice, affording a basis for my previous statement, that about one-sixth of this class has been replaced by men who have passed the examinations.

One license has been revoked for dishonest practices.

The license law is enforced by the attorney of the board, Hon. Charles N. Goodnow, of Chicago, who keeps a close watch on buildings and architects, and conducts all prosecutions in the courts for violation of the law.

The system of administration is largely due to the wise foresight and the careful thought of the late Dankmar Adler, a gentleman imbued with the noblest civic spirit. The very complete forms required were chiefly devised by Peter B. Wight, the secretary of the board. Other members have devoted especial care to the examinations and the general work of the board.

The general results of the law have been decidedly advantageous to the public, as well as to the profession.

Numerous shysters and incompetents have been driven out of practice, especially in Chicago and its vicinity, where a considerable number of men have been prosecuted and fined. There is plenty of room for this class outside of Illinois

The professional status of the architect has been very materially elevated, and the general public is learning that there is a great difference between the architect and the contractor, and to beware of a person attempting to perform both services at the same time. No man should have an interest in the profits of the erection of a building built under his direction and subject to his approval, acting as the expert adviser and agent of the owner.

Draughtsmen in the larger offices have been restrained from practising on their own account unless they pass examinations and obtain a license, when they usually commence for themselves. This kind of practice has been quite common in Chicago, to the detriment of regular practitioners, who have to pay rent and other expenses, from which the draughtsman is free. It has usually been forbidden in the best offices. Cases have even occurred where draughtsmen have been employed to work on competition drawings, and have made and presented other designs made by themselves on their own account, certainly a matter of bad faith.

The professional education and training necessary to the successful practice of architecture has very materially increased during the existence of the law. Nearly one-sixth of the number of architects licensed without examination have been replaced by men who have passed the examinations now required. Since this change has occurred within three and a half years, it may reasonably be expected that all incompetent men will have left the profession at the end of the next ten years, when all practising architects will have either passed the examinations or possess equal preparation for their work. The professional standing of the architect should then, in Illinois, equal that of the lawyer or the physician.

Two very important changes are very clearly apparent at this time, and they are certainly in part due to the license law.

The country practice, excepting court houses and large school buildings that are still designed by specialists, is rapidly passing into the hands of local architects instead of Chicago architects. This gives the country architects plenty of work and produces a congestion of practitioners in Chicago, where architects do not yet appreciate this great change.

With the exception of great office and mercantile buildings, still monopolised by a few Chicago firms, the work of the profession is rapidly passing into the hands of younger men whose education, training, opportunities for travel, &c, are far superior to those of their predecessors. It may be confidently expected that if a truly American style of architecture ever appears, it will be the work of these enthusiastic and energetic young men, and it is more likely to appear in Chicago than elsewhere, the place of origin of those three great advances in modern architecture, the steel foundation and skeleton, the office building and the rational mercantile building, now just developing into its permanent form.

CAMBRIDGE UNIVERSITY LIBRARY.

IN a letter to the *Times* Mr. Thackeray Turner writes :—The committee of the Society for the Protection of Ancient Buildings has been informed on good authority that a scheme is under consideration by the Syndics of the Cambridge University Library with a view to the extension of that library at the expense of the old schools quadrangle. We shall be grateful if you will allow us to occupy some of your space in pointing out what this proposal involves.

The quadrangle was formed at different times in the fifteenth century, the buildings which enclose it being designed to serve as the public buildings of the University, including the library, which, at first confined to a single room, gradually spread over the rest of the area. In the middle of the eighteenth century irreparable damage was done by the destruction of one side of the enclosing buildings, the work of Archbishop Rotherham ; it was replaced by the present east front, which cut off the quadrangle from the outer world. But the other three sides have remained hitherto substantially intact, and are of the highest value, not only as a fine Mediæval building, but no less from an historical or even sentimental standpoint, as for three centuries at least the centre of the intellectual life of the University.

It is now proposed, as we understand, to cover in this quadrangle with a glass roof at the first-floor level, and to fill the space thus obtained with book-stacks of iron. The effect of this change, as to light and air, on the ground-floor rooms is a matter primarily for the Syndics, and it may be supposed that they have thoroughly considered it. But its effect on the buildings themselves and their associations seems to be a legitimate subject for the expression of outside opinion. For if it be decided to make the present walls serve to support the roof of the new structure they must inevitably receive serious damage in order that this may be carried out ; and the fine buttresses that stand out all round must be seriously modified or destroyed, to the weakening of the walls they hold up, unless much space is to be sacrificed If, on the other hand, the proposal takes the form of an independent building standing free inside the area, it is difficult to see what advantage, beyond the cost of a site, would be gained over a similar building outside the present library buildings, which need not be at any great distance, and could be devoted to the storage of the vast mass of "dead" books with which such a library is burdened. Moreover, as a passage must be left all round, the proportion of space thus lost to the whole site would be large. But (and this is as important a point as any) in either case the quadrangle, once turned into a book store, must cease to be a quadrangle ; it will lose its essential character, it will no longer be what its builders intended it to be, and what it has been for over four hundred years. Against such a change, against the desecration of a spot so historical, one which by every member of the University ought to be looked on as the central point of that University's life in the past, we feel it to be our duty to protest ; and if, as is to be feared, the report is too true, we earnestly appeal to the library syndicate and to the University authorities to hold their hand from the perpetration of this act of vandalism, at least until they and others are clearly convinced that no other course is open to them except at a sacrifice of money or convenience which (if it be possible) outweighs the mischief which this ill-omened scheme must cause.

The reply of the librarian, Mr. J. Willis Clark, is as follows :—It would be well if the Society for the Protection of Ancient Buildings, before it goes into hysterics over the supposed desecration or destruction of some historic edifice, would take the trouble to ascertain exactly (1) what the present condition of that building is ; (2) what it is proposed to do.

1. After mentioning the destruction of Archbishop Rotherham's east front in the middle of the eighteenth century, which, says Mr. Turner, "was replaced by the present east front which cut off the quadrangle from the outer world" (whatever these words may mean), Mr. Turner proceeds as follows :—"But the other three sides have remained hitherto substantially intact, and are of the highest value, not only as a fine Mediæval building, but no less from an historical or even sentimental standpoint as, for three centuries at least, the centre of the intellectual life of the University." This is not true in fact. Of the Mediæval buildings erected between 1400 and 1475, very little now remains. The changes began in 1659-60, when "needless stone" was cut out of the windows of the divinity school. In 1719 Bishop Moore's books, given by George I., arrived, and were the cause of great changes. In the first place, a new senate-house was built (completed 1730), and the old Regent House, as it was called, was fitted up as a library. Next (in 1732) the picturesque staircase in the north-west corner of the quadrangle (shown in Loggan's print) was pulled down, and the building forming the western side, now containing the arts school on the ground floor, with the west room of the library over it, was made of a uniform width, and the windows in the room on the first floor were taken out and replaced by tasteless round-headed openings, two to each bay. In 1755 the new eastern façade was begun, and a little more than a century later (in 1864) a new storey was added to the south side by Sir G. G. Scott. These are the principal changes that have been effected; but in minor details a continuous process of repair and inevitable alteration has been going on ever since the quadrangle was first built, so that Professor Willis felt himself obliged to write as follows ("Architectural History," vol. iii. p 79):—

"As each side in succession was undertaken as a complete work, it afforded a series of interesting specimens to illustrate the gradual changes of the Perpendicular period. The soft stone, however, of which the tracery of the windows was made has led to their destruction in the parts that remain ; for nothing is now left in the windows except the monials. . . . A good series of doorways remains in this quadrangle, but the remainder of the details have been so altered and patched as to be of little value for study."

2. It is not proposed "to cover in this quadrangle with a glass roof at the first-floor level, and to fill the space thus obtained with book-stacks of iron." It is impossible to describe on paper a scheme involving so many technicalities as that suggested by Mr. W. C. Marshall, the architect consulted ; but I may say generally that he proposes to place iron columns in the quadrangle at some distance from the walls, carrying a floor at the level of the first floor of the adjoining rooms, and a roof, partly solid, partly of iron and glass, so arranged as to combine with the existing roofs. The floor thus contrived will be used as a place for study and be approached by a bridge from one or more of the rooms on the first floor. It will be surrounded by bookshelves, in which works of reference not to be removed from the library will be readily accessible to students. Underneath, on the ground floor, will be ranges of bookcases, combined with the iron pillars above mentioned. Access to these cases will be facilitated by a liberal use of electric light.

The space between this central structure and the walls will be used as a passage to the different rooms of the library, now most inconveniently separated, and "the fine buttresses" will not be "seriously modified or destroyed."

3. I deny that by this treatment the quadrangle "must cease to be a quadrangle ; it will lose its essential character, it will no longer be what its builders intended it to be, and what it has been for over 400 years." I am not aware that it is proposed to destroy a side of this space or to take any steps to alter those conditions which make it quadrangular. What did those who built it intend it for? Was it not an inevitable consequence of placing four structures in juxtaposition so as to include a space? Was it not a meeting-place and a passage in the fifteenth century, and will it not be much more so in the twentieth century after those changes have been made?

Lastly, Mr. Turner talks about "the desecration of a spot so historical, one which by every member of the University ought to be looked on as the central point of the University's life in the past." I fully accept the challenge here thrown down. I maintain, against Mr. Turner and all the archæologists in Christendom, that it is in the interest of true archæology that I advocate so strenuously as I do the change now proposed. As the quadrangle marked the centre of the intellectual life of the University centuries ago, so it will do once more if the syndicate be allowed to carry out the changes proposed. The space gained for study will bring the workers of the University into the library, where they have hitherto had but little space to read in ; and instead of a sickly sentimentalism that gushes over a few old stones, not because they are interesting or instructive, but merely because they are old, we shall have manly work worthy of the best traditions of our University.

THE ARTISTS' WAR FUND.

THE final report of this fund, signed by the chairman, Sir Lawrence Alma-Tadema, R.A., the vice-chairman, Mr. Frank Dicksee, R.A., the hon. treasurer, Mr. Val Prinsep, R.A., and Mr. M. H. Spielmann, hon. secretary, has just been printed. The committee issued invitations to over 300 artists. The response was generous and enthusiastic. A total number of 328 artists (including her late beloved Majesty Queen Victoria, the Empress Frederick, and Princess Louise, Duchess of Argyll) contributed 346 works. Several works were also presented by several artists who had not been specially invited. About sixty artists and architects, unable to contribute works, together with a few unsolicited sympathisers, presented to the fund 1,085*l.* in money. This amount includes the corporate donations of the following clubs and societies, which were established and affiliated to the fund at the invitation of the committee :—The Arts Club, London ; the Bewick Club, Newcastle-on-Tyne ; the Chelsea Arts Club, London ; the Derby Sketching Club ; the Dudley Gallery Art Society, London ; the St. John's Wood Arts Club, London ; and the Winchester Art Society.

The committee observe :—"The acceptance by her late Majesty of the patronage of the fund at once invested the movement with great significance, while the contribution of works by Her Majesty's hand and by that of the late Prince Consort, followed by the marked interest shown by the members of the Royal Family, insured the final success of the fund. Her Royal Highness the Princess Louise, accompanied by His Grace the Duke of Argyll, was pleased to open the exhibition at the Guildhall ; and His Majesty the King visited it and bid for works upon the walls and at the sale. For these proofs of sympathy the committee beg leave to express their profound gratitude."

No ordinary balance-sheet is issued with the report, for the reason that no deductions whatever have had to be made for working expenses. These expenses have necessarily been heavy, but they have all been defrayed by the workers in aid of the fund. The Lord Mayor and Corporation of London gave the use of the Guildhall Art Gallery, as well as the labour connected therewith. This exhibition, including the sale of catalogues presented by Messrs. Clowes, realised 308*l.* 11*s.* Messrs. Christie, Manson & Woods lent their galleries for the week's exhibition and two days' sale, and conducted the whole without any charge whatever, thus, in effect, presenting the fund with many hundreds of pounds. This sale, together with contingent profits from the sale of catalogues, from commissions returned, and money donations made in the sale-room, was written down at 9,215*l.* Messrs. Clowes & Sons presented all catalogues to be sold for the benefit of the fund, both at the Guildhall Art Gallery and at Messrs. Christie's. Messrs. Arthur Dicksee & Co. acted as agents free of charge, an arrangement voluntarily concurred in by their workmen. The hon. treasurer presented the funds for insurance and other important outgoings, and there were no charges for secretarial and organising work and expenses. To all these the committee tender their most grateful thanks.

The financial statement and scheme of apportionment approved by the committee show that the estimated amount of the fund available on June 28, 1900, was 10,593*l.* 12*s.*, of which 17*l.* 10*s.* was accrued interest. Of this grand total the sum of 2,004*l.* 18*s.* 6*d.* was given to each of the five following funds :—(1) The Patriotic Fund, (2) the Colonial troops, (3) the Officers' Fund, (4) the Soldiers and Sailors' Families Association, (5) the Soldiers and Sailors' Disabled Fund. In addition, the contribution of 405*l.* 14*s.* 4*d.* sent by the Bewick Club and the London Arts Club was divided equally between funds 3, 4 and 5, Lady Butler's contribution of 110*l.* 5*s.* was specially appropriated to the Plymouth, Devonport and Stonehouse branch of fund 4, and the Winchester Art Club's donation of 19*l.* was similarly assigned to fund 5. Further small subscriptions have since brought the total to slightly over 10,600*l.*

The committee of the Glasgow Artists' War Fund request this committee—with whom, though not affiliated, they worked "in order to demonstrate the sum total of the Artists' War Funds throughout the United Kingdom"—to state that the amount of their own collection was 2,800*l.*, which sum was handed over to the Scottish funds. It may be added that the picture by Mr. J. J. Shannon, A.R.A., painted for the Maine Fund, realised 500*l.*, and that certain local artists' funds were also organised.

A list of artist contributors of works of art is appended to the report.

TESSERÆ.

Novelty in Architecture.

We estimate an architect according to the taste he evinces in forming new and pleasing combinations—combinations in which we see the feelings which characterise the poet—which bespeak an imagination analogous to that of the poet : the goodness of the originality is the criterion of their talent. *Mens hominis avida novitatis est;* and a necessity forces itself upon the artist to supply this want—a power of invention which does not imply a neglect of what our predecessors have done, but on the contrary, a profound study and love of their best works ; as there was scarcely, for instance, any one so versed in and so thoroughly pervaded by the spirit and principles which animated the ancients as Michel Angelo ; yet no one so independent of them—always their equal, often their superior. It is in the command of beautiful forms—in breathing new life and vigour into the marble—that a sculptor shows his sovereignty as a poet. The attempt at novelty will often yield more delight than an affectation of taste which is foreign to us, for it is an evidence of the exercise of thought, a desire to create, and a disdain of mere imitation. The mind sometimes embodies ideas which are nothing less than mental phenomena, or the effects of a peculiar organisation, which the reason finds it difficult to account for and the judgment to approve, yet they are valuable on account of their power of awakening curiosity and stimulating reflection. Stewart in his "Philosophy of the Human Mind," speaking of the power of imagination as connected with fine art, says :—"Without taste, imagination can produce only a random analysis and combination of our conceptions, and without imagination taste would be destitute of the faculty of invention. These two ingredients of genius may be mixed together in all possible proportions, and where either is possessed in a degree remarkably exceeding what falls to the ordinary share of mankind, it may compensate in some measure for a deficiency in the other. An uncommonly correct taste with little imagination, if it does not produce works which create admiration, produces at least nothing which can offend. An uncommon fertility of imagination even when it offends excites our wonder by its creative powers and shows what it could have performed had its exertions been guided by a more perfect model." Art that is the result of this uncontrolled imagination must be tested not so much by rules and precedents to which it does not profess strictly, if at all, to adhere, as to the feelings or impressions which its effects make on our minds. Our attention must not be drawn to little errors, but to the prevailing beauties which atone for them. Small blemishes are excusable in a grand building—though of course the fewer the better ; yet a building, faulty in parts, the great effect of which is imposing, is greater in art than one whose only praise is, you do not see any faults, neither do its beauties impress you. We must adjudge an architect's place in the rank of artist by virtue of the quantity of sound intellect and true taste which he displays. On this subject Wren says :—"An architect ought to be jealous of novelties in which fancy blinds the judgment, and to think his judges, as well as those that are to live five centuries after him, as those of his own time. That which is commendable now for novelty will not be a new invention to posterity, when his works are often imitated and when it is unknown which was the original, but the glory of that which is good of itself is eternal."

From Greek to Gothic.

There was in the Classic architecture of Greece a coldness which was its most striking attribute. Born in the East and nourished to its perfect growth beneath the glowing sun of Greece, its deep porticoes and projecting cornices were contrived for shade, for protection from the heat, and to convey that effect of repose and coolness which is so delightful in a hot climate. The ancient Romans, with the literature, adopted the architecture of Greece, but without adapting it to their cooler climate as we may adopt many customs of the gayer French, through fashion, which are ill-suited to the graver character of our nation, but at the renaissance of the arts Grecian was no longer fashionable in Rome. Greece was forgotten, and from the relics of ancient art existing in the imperial city itself arose a style eminently suited to the climate and the age. The architecture of the north, in contradistinction to that of the east, possessed a warmth of effect, and was contrived for shelter, for protection from cold, and to convey in its rich and varied traceries, in its fretted recesses and clustered columns, an effect of richness and comfort in keeping with the enjoyments of northern nations. It was a union of the effect of this style with the cooler beauties of that of Classic art that produced the Cinquecento at Rome, which combined the majestic beauties of the models still remaining in Rome with the more compact and domestic tone of the Tedescan. In the more northern capital of Tuscany the amalgamation partook at first more strongly of the Gothic, and when a century later the march of reviving art reached the fair plains of France under the protecting guidance of Francis I., the climate and feelings suggested a still stronger admixture of the Gothic arrangement. When it stretched to England again, half a century subsequent to its reaching France, the changes it produced were at first principally confined to ornament and detail ; without changing the construction of our Gothic halls, we merely surmounted their clustering columns with a mongrel species of Corinthian capital, or effaced our crockets and tracery for a scroll of acanthus, producing the strange but rich and not unpleasing mixture which antiquaries now admire as the Elizabethan or British semi-Gothic.

Masonry of the Eleventh Century.

It is impossible to read St. Bernard's "Life of Archbishop Malachy" without seeing that the Irish people in the twelfth century were not acquainted with the art of cutting and carving stone, and that their buildings were then usually of wood. Ireland was, no doubt, behind England at that period in all the arts of civilisation, but is not likely to have been more than a century behind, and the state of Ireland in the first half of the twelfth century is probably a fair picture of that of England in the beginning of the eleventh. If churches were the only buildings erected of stone it would have been hardly possible to keep up a supply of skilled masons unless the number of churches then building had been very much greater than there is any reason to believe it was. These simple arts require a good deal of practise, and constant practise, for men to become skilled in them and to remain so. If all demand for them were to cease for two or three generations from the general habit of building in wood, these arts would perish, and would have to be learned afresh when a fresh demand for them arose; and this process would require two or three more generations before really skilled masons were produced. A skilled mason, whether a cutting mason or a setting mason, has at all periods when masonry was used at all been able to earn double the wages of a common labourer, which proves that it has always been an art to be learned, like other arts, by practise. With the exception of churches, the earliest stone buildings we have in this country (after the Romans) are the Norman keeps and castles, none of which are earlier than the eleventh century, and it was a century after the keeps were built in stone before the outer walls of enclosures or any of the dwelling-houses, even in the castles, were built of stone. Earthworks and wooden palisades continued to be the usual fortifications down to the thirteenth century. The use of cut stone came in very gradually, and timber buildings continued to be by far the most common. Some wooden churches still remain in different parts of the country where stone is scarce, as in Essex, Hampshire and Cheshire. These are now the exceptions, but in the tenth century, when the whole country was covered with forest, stone churches were the exception.

Michel Angelo's Lines.

The greatness of men might very justly be weighed by the degree of their comprehension of the two characteristics of art, simplicity of outline and squareness of form. Titian and Sebastian del Piombo well understood the first, but in the second no man has ever approached Michel Angelo. A comparison of the sculpture, and more especially of the bronzes, of the Cinquecento period with those of the antique will show that the Italians knew the value of this quality better than their ancestors. But it was not only by squareness of form but in the frequent occurrence of horizontal lines that we may detect the hand of Michel Angelo. It is true they would naturally occur in sitting figures, but Michel Angelo never failed to emphasise them. If we compare his Prophets and Sibyls with similar figures by Raphael or any other artist, his will be the stronger, the firmer; it is the immovable solidity of their composition that gives them the air of almost awful repose. He was well aware of all the artifices adopted by Ghiberti or Perugino, but he felt the necessity of counteracting a too graceful flow of radiating lines by straight, and more especially by horizontal ones. A bold continuous sweep of line is another characteristic of the great Florentine. It can be best studied in the spandrels which contain the genealogy of Our Lord, for these, being executed with extraordinary rapidity, betray his method. Where any other artist would put a seat, a book, or a scroll into picturesque perspective, he would make them straight and square; he was a classic, as distinguished from a Goth, and all his work is stern, severe, simple, but more especially square He seemed almost disgusted with grace, and preferred rugged discord to monotonous harmony. There was a majesty and a mystery about all his work which defies analysis. He has been condemned because his moving figures are not perfectly natural—they appear to pause. So far from being a defect, this is one of the chief attributes of the grandest art. A sculptor would naturally, and rightly, so treat his figures; a stately slowness is an element of size, and gives a sensation of strength and repose.

GENERAL.

A New Church for St. John's district, High Wycombe, is to be erected at a cost of 6,000*l.* The Diocesan Church Building Society have awarded a grant of 400*l.* towards the outlay.

The Offer of Miss Meyer to present to the Geological Museum, Cambridge, the valuable geological collections made by her brother was gratefully accepted at the last convocation, and the Vice-Chancellor was authorised to convey the thanks of the University to the donor for her generous gift.

The late Mr. Walter Hanstock, architect, of Batley and Leeds, left property to the value of 3,347*l.*

The War Office has decided to purchase additional land at Colchester with a view to the more effective manœuvres of troops, and have also ordered that the already extensive range of buildings known as the Mobilisation Stores shall be added to at a cost of 6,000*l.*

Mr. Robert Ritchie, late consulting surveyor of His Majesty's Office of Works and Public Buildings, who died last month, left an estate sworn at 115,758*l.* 5*s.* 1*d.* gross.

The Seventeenth Annual Exhibition of the work done in the classes of the Home Arts and Industries Association will be held from May 16 to May 20 in the gallery of the Royal Albert Hall. The exhibition will include specimens of wood-carving, inlay metal repoussé, embossed leather, baskets, spinning and weaving lace, toys and rugs and of other arts and industries. There will also be exhibits from the Brabazon and Home Art Scheme for Disabled Soldiers and Sailors.

The Judges who heard the action brought by M. Bartholdi, the sculptor, to have his name recorded as joint designer of the Palace of Longchamps, Marseilles, have decided against his claim.

Mme. Juliette Adam gave a lecture in Athens on the revival of civilisation through the influence of the Greek spirit. The audience included the members of the royal family and the most prominent persons in Athens society.

The Water-Colour Drawing by J. M. W. Turner of Buckfastleigh Abbey, $10\frac{3}{4}$ inches by $15\frac{1}{2}$ inches, which was at one time in the collection of the late Mr. Ruskin, and which is engraved by R. Wallis in Turner's "England and Wales," was sold at Christie's for 800 guineas.

Mr. W. J Jenning, F.S.I., will read a paper on "Dilapidations" before the Society of Architects on next Thursday evening.

The Annual General Meeting of the Architects' Benevolent Society was held in the rooms of the Royal Institute of British Architects on Wednesday last. The president, Mr. W. Emerson, was chairman.

The Prix Achille Leclerc, of which the Académie des Beaux-Arts has charge, and which is given for an architectural design, has not been awarded. The subject given was a monument to the heroes of a war of independence. There were nine competitors.

The Directors of the Norwich Union Life Insurance generously agreed to recognise the labours of the competitors for their new offices, with the exception of the authors of the accepted design, by awarding them all premiums, although they did not make it one of the original conditions.

The Seventy-second Exhibition of the Royal Hibernian Academy of Arts was opened on Monday afternoon in Dublin by the Lord Lieutenant and Countess Cadogan.

The Master Builders of Chester have decided upon placing a stained-glass window representing the figure of "Hiram, architect and artificer," builder of the Temple, in St. John's Church, Chester, as a memorial to the late Thomas Mealin Lockwood, architect, who was for many years a parishioner. The cost of the memorial will be about 150*l.*, and at the Chester Consistory Court Chancellor Espin granted a faculty for the work to be proceeded with.

Archæological Circles in Rome are disturbed at the report that the Temple of Castor and Pollux in the Forum is crumbling To a certain extent this is true, and instructions have been given to strengthen the foundations.

The Late Lieut.-Col. Henry Cowell Boyes, architect, has bequeathed 100*l* to the Architects' Benevolent Society and to the charitable fund of the Surveyors' Club. The value of the estate is 61,985*l.* 17*s.* 1*d.*

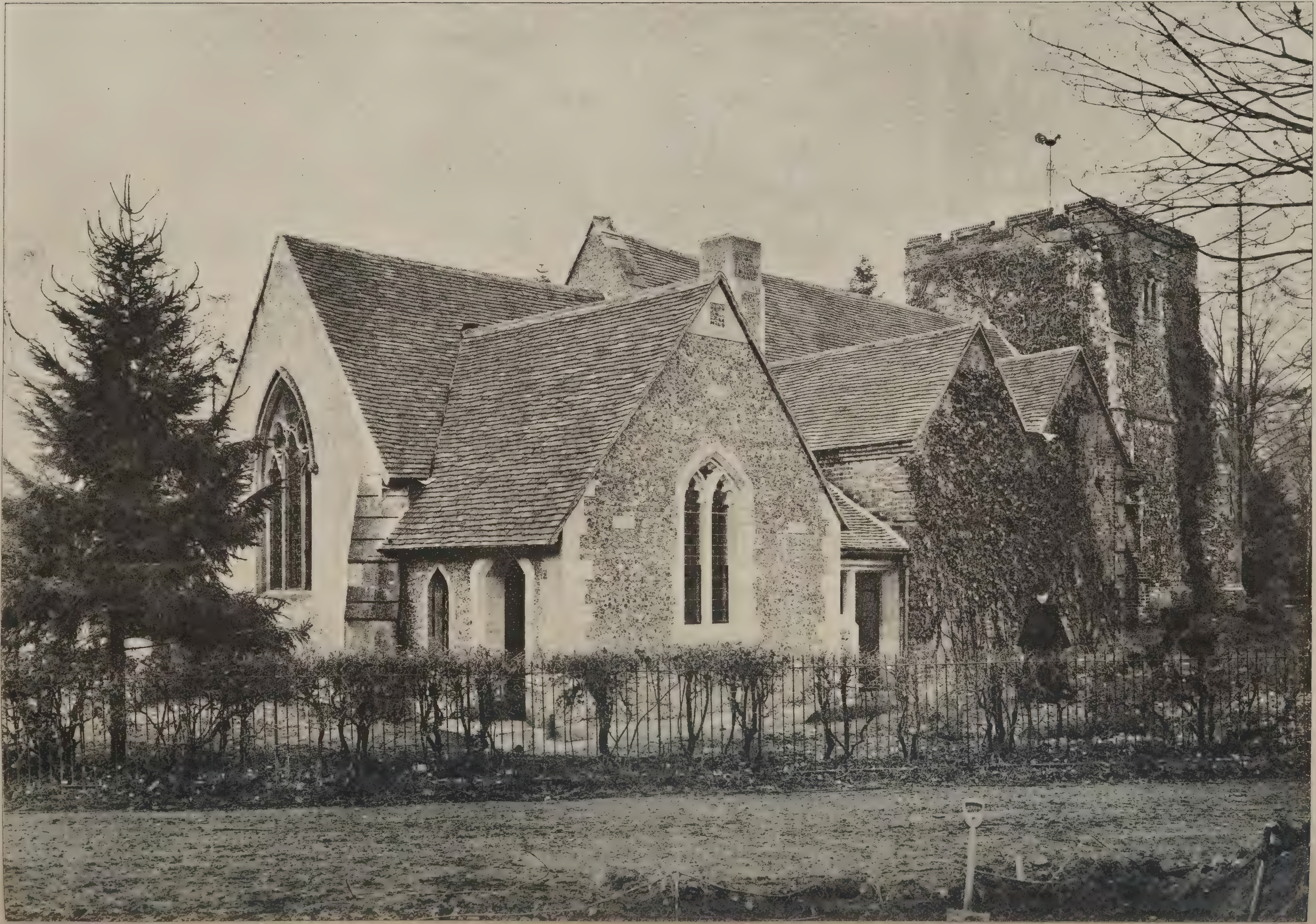
The Sub-Committee of the Queen Victoria National Memorial consists of Viscount Esher, Lord Windsor, Major-General Sir Arthur Ellis, Sir Edward Poynter, president of the Royal Academy, Mr. A. B. Freeman-Mitford, Mr. W. Emerson, president of the Royal Institute of British Architects, and Mr. Sidney Colvin. A report, which has been submitted to the King and to the general committee, was agreed to on Monday.

The Death is reported, in Paris, at the age of eighty-one, of M. Charles François Jalabert, a pupil of Paul Delaroche, and an historical, religious and portrait painter. His portraits of *grandes dames* had a great vogue under the Empire, but they became unpopular owing to affectation and mannerism, and he is almost unknown to the present generation.

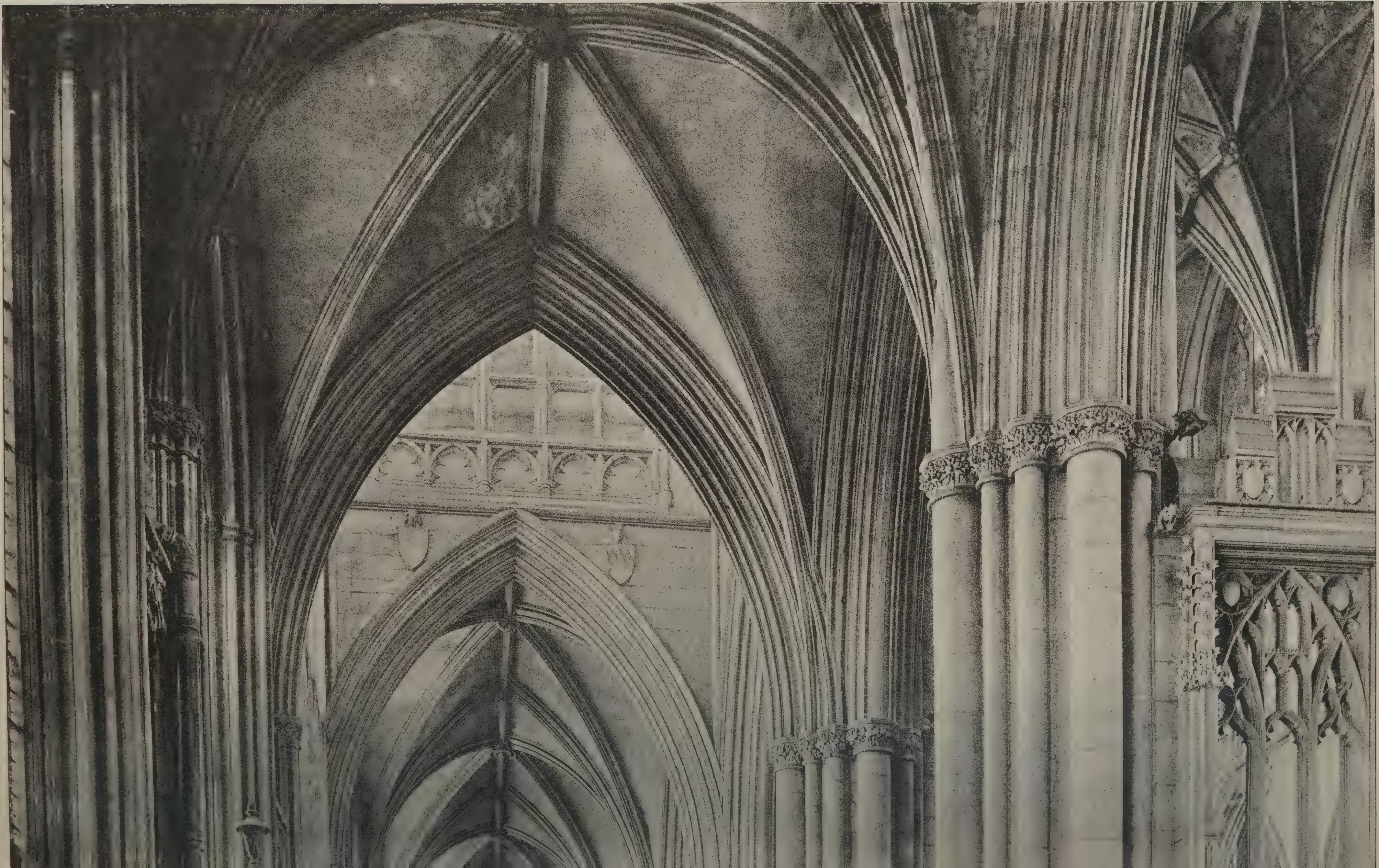
The Edinburgh Architectural Association held a meeting on Wednesday last, when Mr. Brydon read a paper dealing with "The Works of Professor Cockerell, R A."

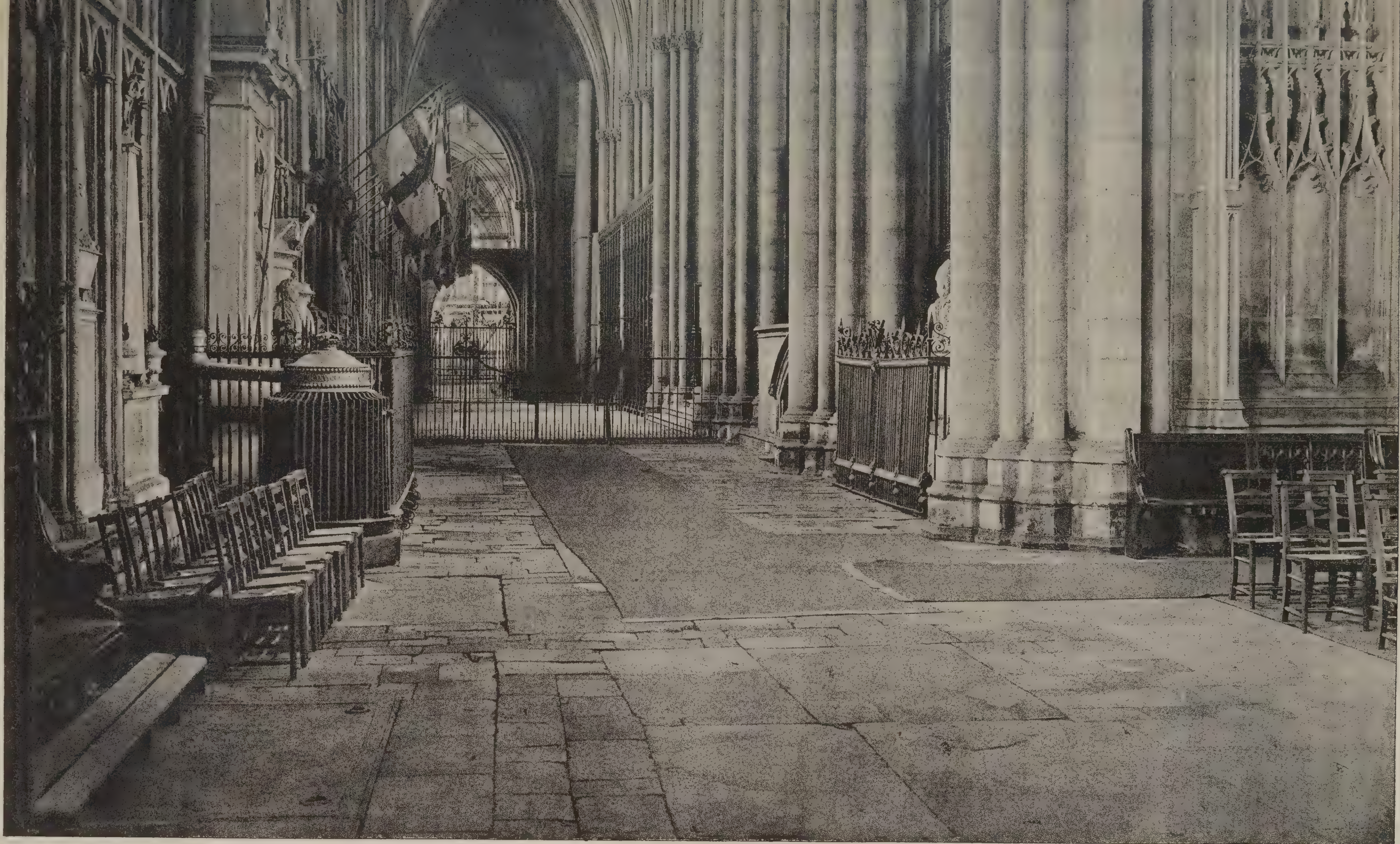
The Late Sir Francis Cook has left a collection comprising 453 paintings of the Spanish, German and Dutch, French, Venetian, Florentine and other Italian schools, with a few paintings of the English school. There are eleven paintings by or attributed to Titian, seven to Velasquez, four to Sir Joshua Reynolds, two to Gainsborough, and others to Murillo, Rubens, Vandyke, Rembrandt, Jacob Ruysdael, Wouverman, Gerard Dow, Andrea del Sarto, and many other famous old masters.

The Liverpool Architectural Society will hold its fourth members' evening at the Law Library, 41 Castle Street, on Monday next, the 18th inst., at 6 P.M, when a paper will be read by Mr. Neville Hampson, on "The Restoration of Ordsall Hall."



The Architect, Mar 15th 1901.





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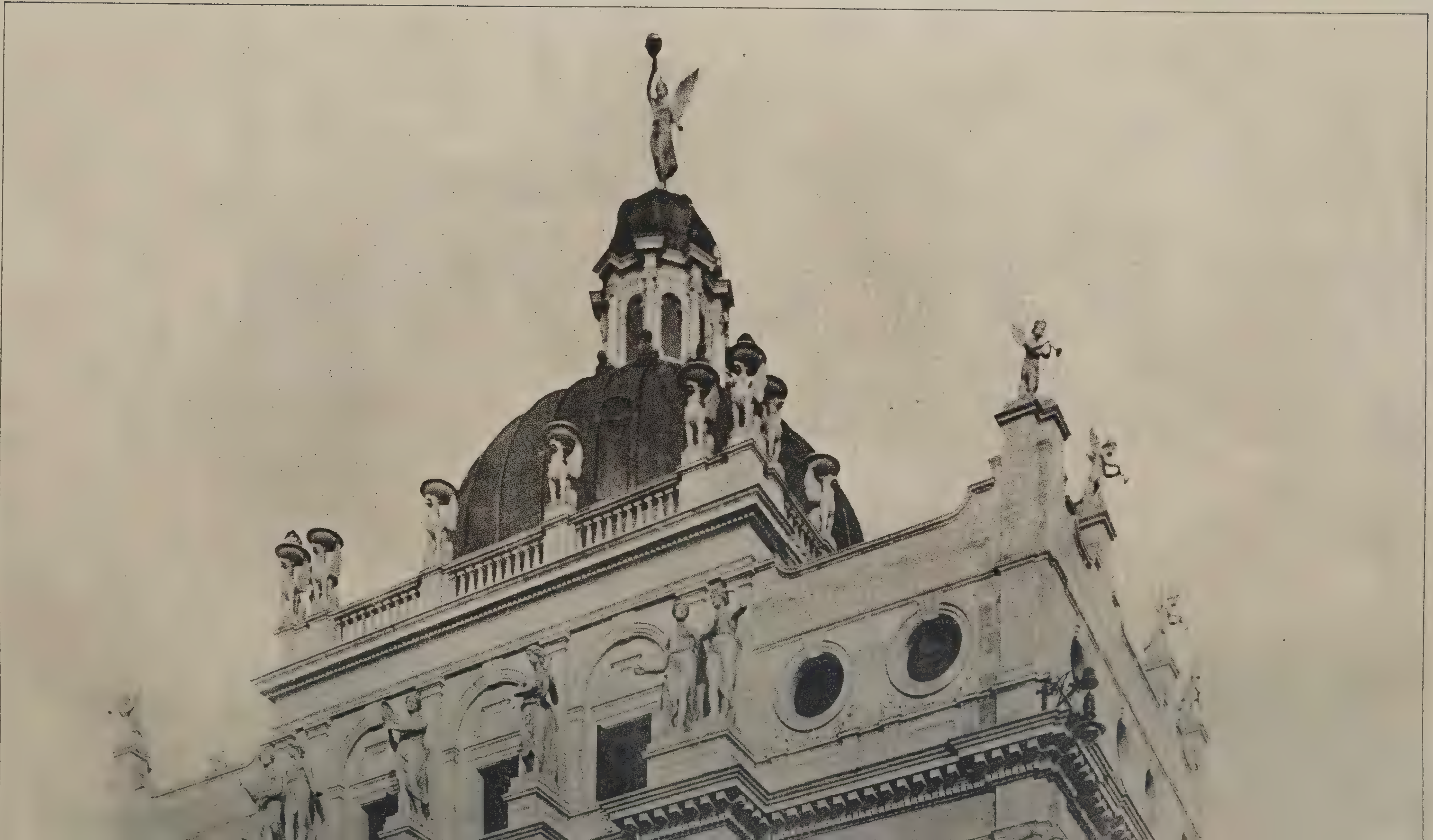
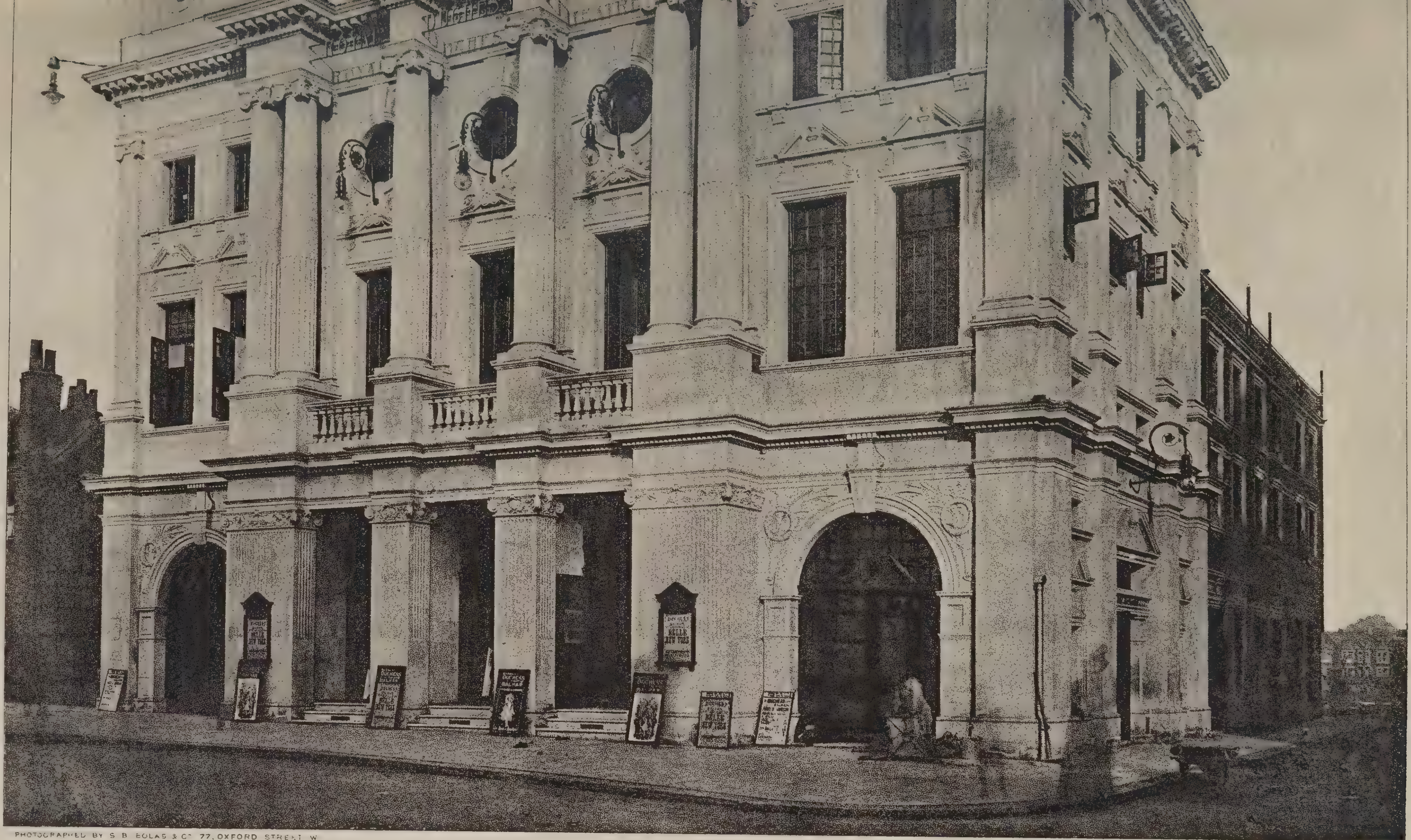
Cathedral Series, No. 323.—York Minster: South Choir Aisle, looking West.





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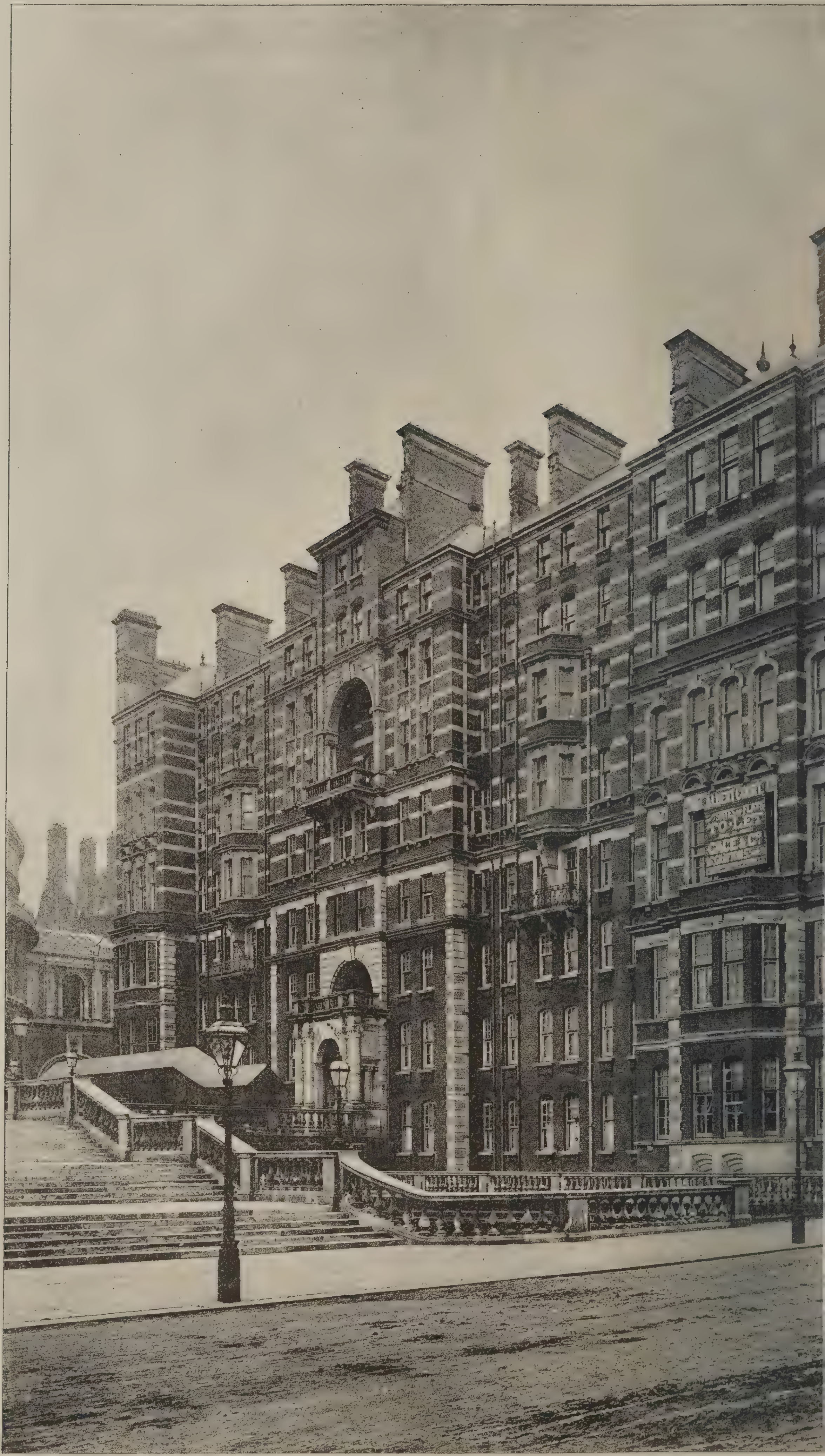
ROYAL DUCHESS THEATRE, BALHAM.

W. G. R. SPRAGUE, Architect.



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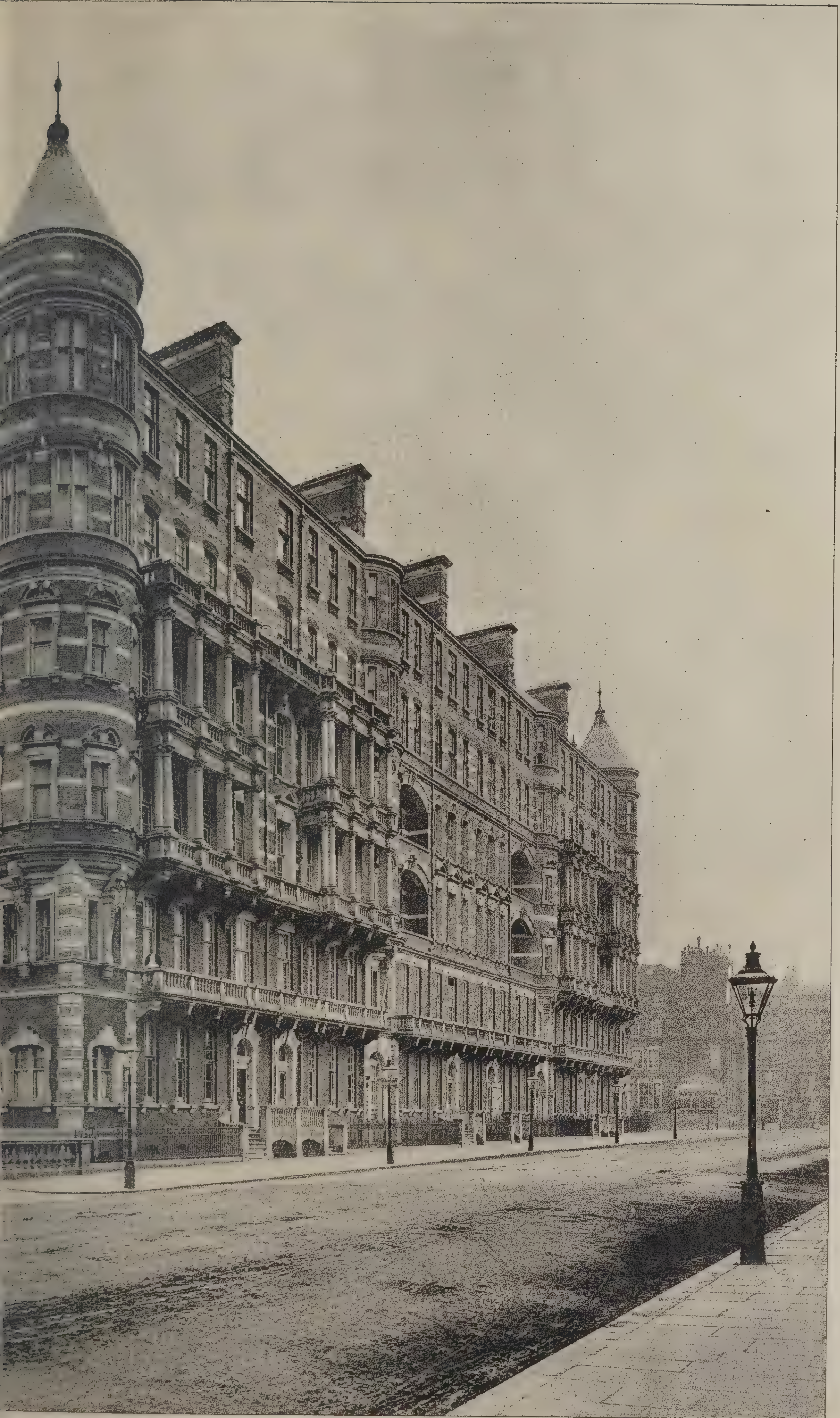
ALBERT COURT, KEN

R. J. V



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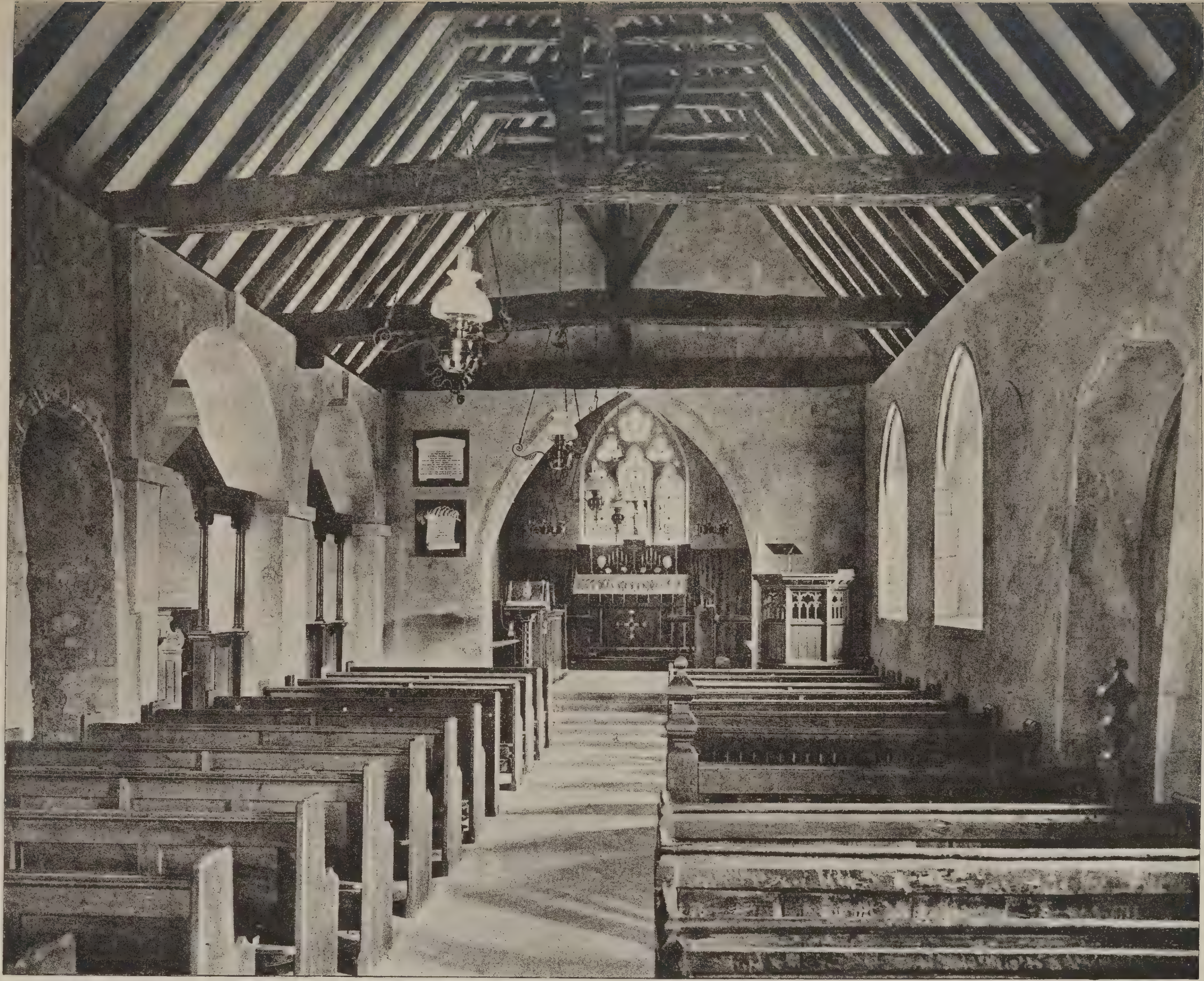
ON, FROM SOUTH-WEST.

Architect.



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TURVILLE CHURCH.

Restored by Messrs. FORSYTH & MAULE.

OF THE
UNIVERSITY of ILLINOIS.

The Architect.

THE WEEK.

We mentioned last week the result of the action taken by M. Bartholdi, the sculptor, to compel the Municipality of Marseilles to inscribe his name on the Longchamps Palace as its designer. The Court was unfavourable to the artist's demand, and while admitting that M. Bartholdi's claim was not irrelevant, came to the conclusion that the Municipality could not be formally ordered to record his name on the structure. At the same time, a recommendation was given that the Council should give satisfaction to the sculptor by placing his name on a tablet and by exhibiting his original model of the palace. Although he may be said to have gained a moral victory, M. Bartholdi is not satisfied. It is understood he will institute an appeal, and further litigation must therefore follow. Fame is very dear to most artists, and the effort of M. Bartholdi to attain his rights will find much approval. At the same time, there is no reason for doubting the statement of the late M. Esperandieu about his ignorance of the design by the sculptor.

If betting could be considered as a legalised practice, in architects' offices an opportunity might be made with the list of competitors for the Prix de Rome. The usual preliminary trials have been gone through, and the names of the ten artists who have been selected for the final struggle were announced on Saturday last. They are as follows:—(1) M. Jean Hulot, pupil of M. Marcel Lambert; (2) M. Rousselot, pupil of M. Lambert; (3) M. Barrias, pupil of M. Pascal; (4) M. Maurice Gras, pupil of MM. Daumet and Esquié; (5) M. Gabriel Midy, pupil of MM. Guadet and Paulin; (6) M. Ernest Hebrard, pupil of MM. Ginain and Scellier de Gisors; (7) M. Hubaine, pupil of M. Marcel Lambert; (8) M. Maurice Prévost, pupil of MM. Guadet and Paulin; (9) M. Prost, pupil of M. Marcel Lambert; (10) M. Ferdinand, pupil of MM. Guadet and Paulin. A few years ago most of the candidates came from M. Ginain's atelier. Now M. Marcel Lambert has the majority, and is followed by MM. Guadet and Paulin.

Among the many galleries which are opened for Spring exhibitions are those of the Royal Institute of Painters in Water-Colours, which also includes the works of the Society of Miniaturists. The standard of the Institute is good, but there is little that merits a more laudatory adjective. Indeed, it seems as if a trades union principle of uniformity of level was adopted. There are an unusual quantity of landscapes. Mr. Hine is, perhaps, the most successful for architectural views, his *Gloucester from the South-west* being especially good. Mr. Bernard Evans has a pleasing view of the noble ruin of Fountains Abbey. Mr. John Fulleylove has an elaborate interior of St. Paul's Cathedral, looking east; another kind of interest is raised by his view of *The Erechtheum from the North Side of the Parthenon.* The humorous element is largely supplied by Mr. Gordon Browne. The president, Mr. E. J. Gregory, R.A., exhibits a fine work in *The Brink of a Discovery*. The meaning of the title is perplexing, but the shady riverside is refreshing. There is no mistaking Mr. John Hassall's *All the King's Horses and all the King's Men.* Its quaintness could hardly have been surpassed by any other artist. Mr. Mortimer Menpes is seen to better advantage in *Mariamne* and *A Puritan* than in the war pictures we noticed a few weeks ago. There is a vigorous picture by Mr. W. W. Collins, entitled *A Duel*, in which we see two skin-clad warriors on the point of rushing at each other. The ferocity of both and the rudeness of the surroundings are well brought out. Mr. Frank Dadd could have brought his *Horses for the King* up to date by altering the uniforms of the two inspecting officers, but by so doing much of the charm would have been lost. Classical figures and times are portrayed by Mr. H. Ryland. There are many other artists exhibiting who are known and appreciated by all who visit the Piccadilly Galleries. The Society of Miniaturists must be rapidly advancing in public favour, and many of the works recall the best traditions of the eighteenth-century.

We lately referred to the case Hoddinot *v.* Newton, Chambers & Co., in which a workman who was employed in fixing some ironwork which was introduced long after a building was completed was declared by the House of Lords to be engaged on "structural repair" within the meaning of section 7 of the Workmen's Compensation Act. As the decision of the highest tribunal, the effects must be far reaching unless the Act is amended. One application of it came before the Court of Appeal on the 14th inst. A workman was engaged in whitewashing and stopping the staircase ceiling over a school building in Gloucester. He asked Dredge, the foreman, to help him, as he could not reach the ceiling from the ladder employed. Dredge brought a step-ladder, which was placed on a plank, and, mounting it, went on with the whitewashing while the workman held the ladder. Through some cause which was not clearly ascertained, the ladder gave way and the two men fell to the ground, Dredge being killed. The County Court Judge held that the planks and ladders formed a scaffold, but he was of opinion that whitewashing ceilings was not a structural repair, and if the walls near the fireplace were defective and led to the accident, it could not be considered that the repairing of them was to be done by scaffolding. The award was, therefore, in favour of the builders. An appeal was brought by Dredge's widow. The Master of the Rolls said the County Court Judge's decision was right at the time it was delivered, but after the verdict in the House of Lords, painting and whitewashing must be classed as "repair." The appeal was therefore allowed, although their lordships believed that the decision in Wood *v.* Welch was more in keeping with the spirit of the Act.

A case which comes before the Railway Commission to-day, between Messrs. Low, of Wolverhampton, and the London and North-Western and Great Western Railways, is in reality a contest between landed proprietors and traders in English timber of the United Kingdom *v.* the railway companies of the United Kingdom. What we believe is proposed is that instead of string measure and 144 divisor, as heretofore, the railway companies are seeking to measure by tape over bark and the 113 divisor. The companies are also seeking to secure that elm timber be carried at 40 feet to the ton instead of 50 feet, as at present. The decision will have an important influence on the future welfare of the inland-grown timber trade, and it is earnestly desired by all concerned in an important English industry that foreign trade will not once more be made to triumph by exceptional facilities such as would not be allowed in any other country.

From what point the height of a building is to be measured in order to discover whether the 30-feet rule of the Workmen's Compensation Act applies to it is a puzzle to Scottish no less than to English judges. In a case which was heard last week in the Court of Session the Lord Justice-Clerk, an office corresponding to that of Chief Justice in the South, said it was not to be assumed that the height of a building under the Act was to be measured from the ground. Sometimes the depth it was necessary to go before a desirable foundation was found exceeded the height of the building above the ground. In the case which was under consideration the building where the accident occurred was a washhouse, and measured only 15 feet 7 inches from the floor to the roof. But there was a cupola 8 feet 6 inches high, and from the floor to the subway beneath for steam and water pipes was 6 feet 4 inches. There was also a chimney 30 feet high built into the back wall. Taking all the measurements together the 30 feet limit was passed. But if the case were brought to the House of Lords it is not certain if that mode of measurement would be approved. Scaffolding had been used in the erection of the washhouse, but at the time of the accident it was lying on the ground. The claimant was a watchman, and received his injuries by falling into a hole in the floor. The Sheriff who first heard the case awarded him 7*s.* 6*d.* a week, and the decision was approved in the Court of Session.

CHRISTIAN ARCHÆOLOGY.*

ARCHÆOLOGY as a science is supposed to relate to subjects which are not merely ancient, but are obsolete. At first it may therefore appear to have no connection with Christianity. All branches of the Christian religion believe in the principle of continuity, and maintain their correspondence in various ways with the converts who were taught by the Apostles. It is difficult to have a science under those circumstances. Moreover, if we consider Rome as the place wherein archæological remains which relate to Christianity are most abundant and important, we find in the city an authority which is unique in its duration. As MACAULAY wrote :—"The proudest royal houses are but of yesterday when compared with the line of the Supreme Pontiffs ; no other institution is left standing which carries the mind back to the times when the smoke of sacrifice rose from the Pantheon and when camelopards and tigers bounded in the Flavian amphitheatre." With an unbroken line lasting for so many centuries it is difficult to draw a division between what is ancient and what may be considered as modern. A compromise has had therefore to be arranged. Specialists who have devoted themselves to Christian archæology have come to the conclusion that the ninth century should be taken as marking the assumed change of the old order and the beginning of the new. But, as in all cases where we have to deal with revolving years, it is not to be expected that precision can be insured. Styles of any kind are not separated by clean cuttings. Signs of antiquity are visible in various works connected with ecclesiology after the ninth century, and indications of the subsequent development are to be traced prior to the beginning of that century.

There is no reason, however, to doubt that about the ninth century there was a marked evolutionary operation in Church affairs. CHARLEMAGNE died in 811, and during his reign he had given a new security to the Papacy, and enabled the churches to present unprecedented grandeur in the accompaniments of the service and in decorative works which were beyond the dreams of primitive ages. The canonical offices also underwent a change which was not without effect on the planning of churches. For instance, between 827 and 844 additions were made to the Basilica of St. Peter which were required for the POPE and his clergy, who used to come there from the Lateran, which was "Mater et Caput Ecclesiarum," to visit the tomb of the patron saint and to take part in other ceremonies. What was before in embryo, as it were, was then able to be displayed in all magnificence in the eyes of the world. Pilgrims to Rome became more numerous, and they were able to bring back accounts of what they saw which must have excited the wonder of western Europe. It was, in fact, in the ninth century that the English ETHELWULF and his son ALFRED went to Rome: the king stayed for twelve months, leaving ALFRED under the care of the POPE in order that he might receive his education where wisdom was supposed to dwell.

Assuming there are eight centuries which can be comprised in the archæological period, it is hardly necessary to say that the earlier half, or about four centuries, becomes for the archæologist the most interesting part. What sources of information have we about the condition of the earliest Christians? Professor MARUCCHI divides the evidence into two great classes. First, there are written documents and engraved inscriptions. The former are not always to be vouched for as authentic. A notion prevails that the traditions relating to the Church of the Catacombs have always received official sanction. That is a delusion. They can be subjected to the same tests which are applied in other countries to documentary evidence, and if they fail to stand the tests no authority can make them credible. At all times scrutiny was exercised in Rome in dealing with history. In the fifth century Pope GELASIUS prohibited the reading of certain lives of the martyrs in churches, because he had recognised that much contained in them was legendary and likely to be derived from the imaginations of the authors. But it would be rash to conclude that all hagiological narratives are not based on fact. In Professor MARUCCHI's volumes we can see with what success traditions can be investigated and not seldom established by means of a rigorous investigation. Take one case at random from several mentioned by him. From the fourth century the Roman Church honoured two martyrs, PROTUS and HYACINTHE. Their history seemed to be improbable. They were described as two eunuchs living as servants in the house of a Roman lady named EUGENIA. They became Christians, studied sacred literature, and went to one of the Egyptian monasteries. But when EUGENIA was imprisoned under VALERIAN, GALLIENUS, or DIOCLETIAN, for the accounts differ, the two brothers returned, declared their religion, and with the lady were martyred. Heroic devotion of that kind may have been common in the third century, but seemed incredible at a later time. What testimony is there about the existence of the martyrs? It is beyond question that in a calendar of the time of CHARLEMAGNE their names are recorded, and at a still earlier period they were associated with one of the Roman cemeteries. In the "Itinerary of a Pilgrim," which dates from the eighth century, a copy of an inscription with their names is given. That primitive inscription was found by the Padre MARCHI in 1842, and one or two others have since been discovered relating to them and their martyrdom. A painting was likewise met with in which a young man is seen before a judge who is seated in a chair on a high pedestal. The youth is accompanied by two men who act as guardians, and although no names are inscribed on the painting, yet from the place where it was seen we may conclude the men are the martyrs. But the final link in the chain of evidence was wrought in 1845, when in the cemetery of St. Basil the tombs of the brothers were excavated. The inscriptions "YACINTHUS Martyr" and "Sepulcrum PROTI M(artyris)" were apparently among those which Pope DAMASIUS had set up in the fourth century. He might be described as a forerunner of the Covenanting "Old Mortality." By zeal he seemed to be led to the perpetuation of the names of the martyrs who suffered in Rome, and his inscriptions have a distinct character which is recognised by epigraphists. There could be no worldly advantage to him or any one else in preserving the memory of obscure martyrs like PROTUS and HYACINTHE, and we may therefore assume that the two were brave men who lived and suffered for their faith.

This case is only one example, and not the most striking, among a large number which are given by the Professor. It will be seen that the study of Christian archæology, when based on similar data, is a severe test of the logical faculty. The student has to discriminate between acts, martyrologies, itineraries, &c., and a long course of labour may often have to be set aside on account of differences of orthography in two documents, or a variation between a record on paper and one on stone.

Among the results of the study of Christian archæology in modern times is a change of opinion on the subject of the catacombs. In an English Guide, prepared in 1803 for the use of English visitors to Rome, we find the following description of the catacombs :—"These were caverns, whence they had taken puzzolana (a ground particularly good to use in building mixed with lime), made like vaulted streets. The poor Christians in time of their persecutions lived concealed in those horrible places, and buried their dead and the remains of those who were martyred in the city in each side of the walks." It was stated that 170,000 martyrs were interred in the catacombs. The general belief, therefore, was that a catacomb was an underground city sacred to martyrs and other primitive Christians. But what was the original signification of the word? DE ROSSI, to whom the Christian archæologist owes so much, says the word was a hybrid formed of the Greek *kata* and of the Latin *cubitorium* or *accubitorium*; in other words, it was no more than a tomb. Nor was it necessary for the tomb to be underground. The early Christians, believing that the tomb of CHRIST was closed or sealed, buried their dead in similar receptacles, instead of following the Roman custom of cremation. Owing to the reverence which the Christians paid to deceased members, the authorities often wished to remove the bodies and to burn them. In fact, there was an old edict against inhumation within the boundaries of the city. Consequently, at an early date crypts were constructed in connection with churches. The early Christians, says Professor Marucchi, met in domestic chapels within the city. Without the city walls they had cemeteries which were on the level of the ground, and gravestones with Christian emblems, and inscriptions which were found in these places still exist. In respect to the tombs at a lower level, Padre Marchi maintains there are three varieties of tufa beneath Rome. One is used as building stone, one is granular, and the third is puzzolana, which is in request for making cement. It is in the granular tufa the Christians made the recesses in which to bury their dead, for it was easy to work. But they did not meddle with the quarries from which the building stone was taken. At first the Christian cemeteries appear to have been private property. Then, in recognition of the principle of brotherhood which prevailed among the Christians, the bodies of poorer members were allowed to find shelter near the private tombs. But from the third century, when it was necessary to have burial-places in common, advantage was taken of the Roman law of association, and burial societies were formed. The cemeteries received the names of any martyrs who were first to be buried in them, or of the reigning Pope, and, as seen in the cemetery of St. Callixtus, the boundaries were extended as occasion required. A resting-place could be found for the poorest Christian, but there is enough evidence to point to the theory that graves had their price, whether above or below the ground, and that desirable positions were obtainable only by paying a premium.

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* "Éléments d'Archéologie Chrétienne : I. Notions Générales ; II. Les Catacombes Romaines." Par Horace Marucchi. Paris et Rome: Desclée, Lefevre et Cie.

According to M. Duchesne, the Church as an institution did not possess any cemeteries, and was not officially connected with the various burial societies; but it was unlikely that so important a matter as the reverential disposal of the dead and the keeping of cemeteries free from invasion by pagans could have been carried on without ecclesiastical supervision. We are without information respecting much which arose in the organisation of Christian life in Rome, and seemingly we are never likely to gain knowledge on the subject. Sufficient evidence has been ascertained to show that in the city, as in other parts of the empire, Christians were not compelled to spend their lives underground, and it was possible for a quiet man to be a useful citizen, to live without much apprehension of martyrdom, and to enjoy life like any worshipper of Jupiter or Mars. There must have been a flagrant breach of the law before penalties were incurred.

What is more remarkable is that many tombs which were supposed to enshrine the remains of martyrs are now believed to belong to people who died peacefully in their beds. Unless there is a chemical proof of blood in a vase found near the tomb, the Congregation of Rites will not recognise it as a martyr's. The palm branch was so common a decoration it has ceased to have much meaning. The monogram ☧, once accepted as an infallible sign of the presence of the body of a martyr, was rarely used prior to the Peace of the Church, and is held as no more than an abbreviation of *Christos*, which any Christian could employ. The Pontifical Commission of Sacred Archæology, says Professor Marucchi, by following explorations in a scientific spirit, has dissipated these errors and a good many others. In the crypts where the remains of martyrs were interred there is generally something to show their genuineness. The oratories or basilicas which were erected above them may have fallen into ruin, but some trace of the staircase or means of approach is likely to remain. At all times, too, the Romans were fond of writing on walls, and the pilgrims quickly acquired the practice. In chambers where martyrs' bodies are deposited there are often names and invocations which reveal their purpose. Especially fragments of painting may be expected near a martyr's tomb. Where all testimonies of veneration are absent it is thought necessary to have convincing evidence of another kind before a subterranean chamber is accepted as the sanctuary of one of those who sealed their faith with their blood.

The subject of paintings is so large several volumes could be occupied in treating it. At one period there was what the Professor calls "Le Cycle Pastoral." The Good Shepherd was most often introduced, and sometimes figures of lambs were employed to express the sentiment of the artist. Birds were also frequently painted. There were simple representations of scenes from the Old and New Testaments, together with portraits of saints. Among the artists engaged on the works there does not appear to have been one of remarkable ability. Some of the decorations suggest imitations by painters whose powers were not equal to realise their intentions. But taken as a whole the pictorial embellishments show that the congregations were not considered by their pastors to require painful scenes in order to incite them to piety. On that account it would be interesting to be able to establish the period when the paintings were executed. If in the days of persecution, we must admire the spirit which was in keeping with so many peaceful scenes. If they were produced when Constantine reigned, then we may conclude the Christians were hopeful that the night was passed, and there was a long day brightened by spiritual happiness before them. The paintings give, as it were, glimpses of an idyllic world, and the introduction of the word *Pax* on tombs is in keeping with the character of the pictorial adornment of the catacombs. There is no suggestion of an approaching *Dies Iræ*, from which few could escape; and yet, as Kugler says:—"In the formal simplicity of the catacomb paintings, in the peaceful earnestness of their forms, in their simple expression of a spiritual meaning to the exclusion of any other aim, we recognise a spirit which contrasts refreshingly with the affectation of late pagan works." It is to be regretted that symbolism and conventionalism gained ascendency in the minds of the artists. Many controversies which have divided mankind would have been avoided if there were a few realistic representations of how Divine Service was conducted in the early ages. But men did not realise the value which posterity would place upon the class of proof which can be supplied by a few strokes of the brush, and for which eloquent discourses are no substitute. The Mediæval artists were wiser; for in their windows, paintings and sculpture we often find suggestions of church ceremonies which are of great value to students of history and of ritual.

Professor Marucchi also gives an account of each of the catacombs which possesses archæological interest. His work, therefore, serves as a guide to those who wish to study the subject in Rome as well as to stay-at-home travellers. He is preparing another volume on the churches and ancient basilicas in Rome, and the admirable manner in which he has investigated the history of the catacombs is ample proof of his fitness for the task. In dealing with any subject relating to Christian archæology, a display of the scientific spirit may be considered by some critics as denoting a want of fervour, but the impression left by the two volumes of the Professor is one of satisfaction that the history of the early Christian Church was concerned with men rather than with angels, and by being brought nearer to us our affection for it is likely to be strengthened.

MAROCHETTI'S "CŒUR DE LION."*

It was a courageous act of the late Baron Marochetti to model so large a figure as his *Richard I.* without obtaining any definite commission. As a foreigner he was aware that statues of the same kind were to be seen in continental cities. Possibly he assumed that London would be glad to possess a figure of the king about whose reputation so many romantic legends were twined. The time of its appearance in London was also favourable. In 1851 it was supposed that England was about to display more appreciation of art than in past years, and the equestrian statue was therefore sent to the Exhibition in Hyde Park. Owing to its size it was not adapted for a place in the interior. It was, however, set up outside the western entrance of the Palace of Glass. The public were not over-critical in those days, and as the statue, like the Mediæval Court, brought back the past and united it with the present—an effort which usually succeeds in England—the shortcomings of the rider and his war-horse were passed over. But it could not fail to be perceived in course of time how wide was the difference between the Baron's work and the cast of the equestrian figure of another Crusader—the *Godfrey of Bouillon* in the Place Royale, at Brussels, by Simonis. When the official report on sculpture by Dr. Waagen appeared, it was evident that he was not affected by the national prepossession in favour of the subject, and did not hesitate to point out some of the defects.

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* See Illustration.

> Richard is represented, said Waagen, in mail, mounted on a fine charger. The frank and noble conception of the chivalrous king, holding up his sword in his right hand, and the splendid action of the horse, make this a very remarkable work. In some parts, however, of the modelling of the horse there is a want of knowledge. The hind-quarter and hind-legs especially have rather a lame appearance, and the execution of this part of the horse is very imperfect; the disposition of the veins particularly is altogether arbitrary. The artist has, however, exhibited within the building a horse's head finished in detail, and from this sample we may see that certain further modelling may much improve the general effect.

The Baron was awarded a Council medal, which was a similar distinction to that of Kiss for his *Amazon on Horseback attacked by a Tiger*, and to Pradier for his *Phryne*. In 1862 there was another official attack on the sculptor, and the old criticism of Gustave Planche was revived, in which it was stated there was no question of style to be considered in dealing with the Baron's works, nor of grammar, nor of anything beyond the alphabet of art. However, there was consolation for all that was said against him in the acquisition of the equestrian figure in order to use it as one of the public statues. We described last week some of the memorials of our sovereigns which are to be seen in London, and painful as is the confession, there is no concealing the fact that in spite of all its shortcomings the statue of Cœur-de-Lion is superior to all the statues of later kings set up in various places of the Metropolis.

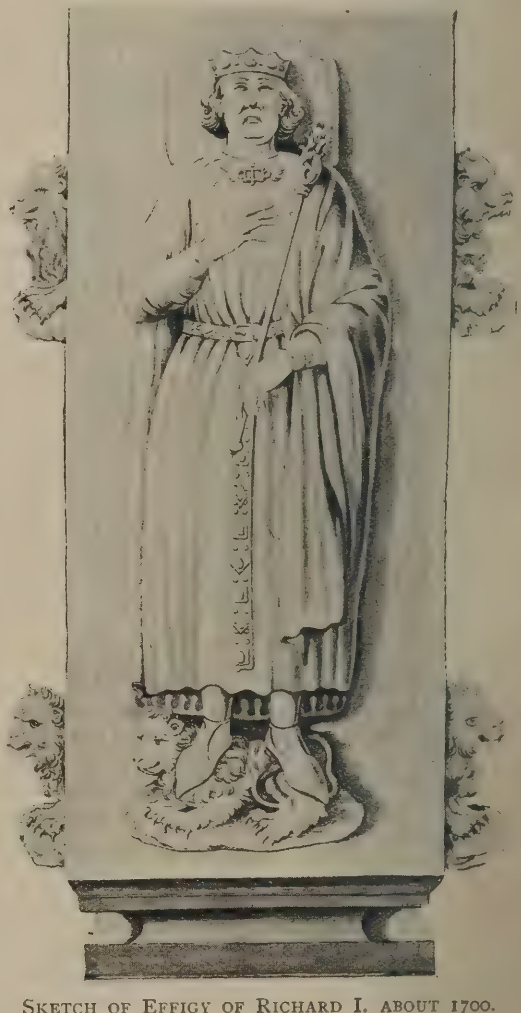
The selection of the site was not guided by any sense of fitness. Richard I. cared little about the Parliamentary system, and it is absurd to place him outside Barry's legislative palace, as if he were the great defender of an assembly of Lords and Commons. As it has been said, "The talents and even the virtues of England's first six French kings were a curse to her, the follies and vices of the seventh were her salvation." A statue of King John would be much more apposite at Westminster than one of his courageous brother. Richard's levies, however, may have served to show the necessity of the great Charter. His necessities in connection with his crusading expeditions cost the country incalculable sums. In the course of the four months he remained in England after his coronation he not only made away with the enormous amount of treasure accumulated by Henry II. at Salisbury, but everything that was saleable—domains, honours, offices—were offered to public bidding. Nobles were imprisoned until they raised large sums to obtain release. High and low were supposed to have no rights in the emergency. It was generally believed that Richard in compensation had given permission for the Jews to be murdered and their property seized. In York 500 Jews cut the throats of their wives and children, and then stabbed each other in preference to falling into the hands of the king's loyal adherents.

During Richard's absence in the East care was taken of his interests in England by William de Longchamp. The justiciary was a despot like his master. When Richard was sold, as if he were a bale of goods, to the Emperor of Germany for 60,000*l.*, it became necessary to raise that sum with others of larger amount. In fact, the king looked on England simply as a source of supply. In two years the enormous sum of 1,100,000*l.* had to be provided, and the money was wrung from all classes. Beyond being a costly advertisement for the western isles throughout Europe and in the East, all that can be credited to Richard is that during his reign uniformity of weights and measures were established in England, and that he permitted a mitigation of the severity of the law of wrecks by allowing relatives of an owner to have a share in the cargo, which heretofore belonged to the Crown or to the lord of the manor wherever the vessel was driven ashore.

Owing to the admiration for physical courage which has always prevailed in Britain, Richard I. was soon idealised into a model for kings and men. Poets and romance-writers made a theme of his exploits. The excess of admiration went so far that after all knightly virtues were exhausted the bards were compelled to describe the king as a cannibal, who considered the tenderest chicken was not equal to the head of a Saracen. As one romance reprinted by George Ellis has it:—

King Richard shall warrant
There is no flesh so nourissant
Unto an English man—
Partridge, plover, heron ne swan,
Cow ne ox, sheep ne swine—
As the head of a Sarazyn.

It would not be likely that a king with such delicate and modern features as characterise Marochetti's *King Richard* could find such enjoyment in the heads of his enemies as bovine heads one time afforded in the North. But the sculptor modelled the king's head as representative of a poetic, romantic hero, without troubling himself to find any evidence of the true appearance of Richard I. A very remarkable portrait was, however, discovered in Rouen some years previous to the modelling of the statue, of which we give an illustration from drawings prepared for the Society of Antiquaries. At the first glance it will be manifest that the subject of the Mediæval portrait was a man who was unlike the Baron's hero. What grounds are there for supposing that the effigy can be regarded as authentic?

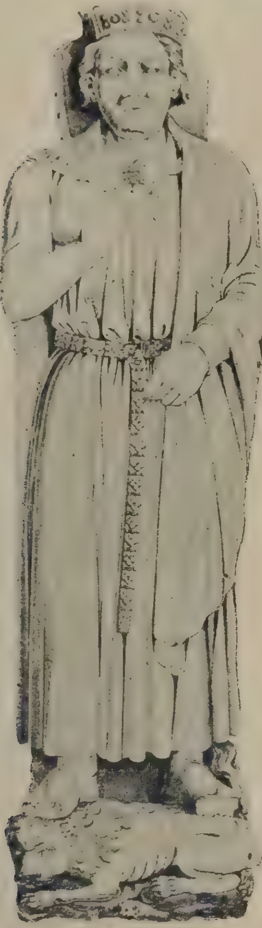


Sketch of Effigy of Richard I. about 1700.
In Bodleian Library.

Richard, as is well known, was fatally wounded in an attack on a small castle at Challuz, near Limoges. He directed that his body should be buried at Fontevrault, at the foot of his father's tomb. A part of his remains he bequeathed to the Poitevins, and

His herte inuyncible to Roan he sent full mete,
For their great truth and stedfast great constaunce.

The canons of the cathedral erected an effigy on the south side of the choir as a memorial of the king, and a sketch of it was published by Montfaucon. The engraving is incorrect, and does not correspond with the original sketch by De Gaignières, which is now in the Bodleian Library. In 1734 alterations were made in the choir, and the effigy of King Richard, and some others, were removed. A slab of the pavement, with an inscription relating to the heart of the king, still remained. In 1838 a local antiquary, M. Deville, was allowed to make an exploration, and he was surprised to find within 2 feet of the surface the effigy of Richard I. Evidently it had been used as part of the foundation for the new pavement of the choir, and the destruction of some of the features, the hands and feet, had been caused to insure flatness of the surface. The casket containing the dust of the king's heart was also discovered. But as the inscription on it is Hic : Jacet : Cor : Ricardi : Regis : Anglorum, it may be assumed that the epithet Cœur de Lion was not applied until a later date. From the character of the work it is reasonable to conclude that the effigy was executed soon after the king's death. It measures nearly 7 feet. The surface of the figure is greatly injured, and the nose and lips have been rudely levelled. But taken altogether the countenance is suggestive of the warrior whose name was used by the Saracen soldiers to expedite the pace of their horses, and by Saracen mothers to scare their children into quietness. War in the twelfth century was not much regulated by merciful considerations, and such a king as is represented on the Rouen slab would not hesitate when he heard a mere rumour of Saracen treachery to sacrifice 2,700 hostages as a spectacle for his army, and afterwards to have gloried in the massacre.



Effigy of Richard I.
Discovered July 30, 1838.

Let us return to the statue. From the point of view taken for the illustration, the equestrian figure appears to have adequate space around it. It therefore corresponds seemingly with those statues which are found in open spaces in continental cities. But when looked at from the north the work, although of large size, strikes the spectator as being almost insignificant when contrasted with the long plane of the Houses of Parliament. In one sense the position would be appropriate for a memorial of Her late Majesty, who was above all things a constitutional sovereign, and during whose reign the great building was erected. But as another site has been approved for the National Memorial, Marochetti's *Richard* will have a longer tenure of the guardianship of a building erected for a purpose which the burly king would have been the last to approve.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute was held on Monday evening last, Mr. W. Emerson, president, in the chair

The decease of Mr. Newton Edward Jennings, of Melbourne, Victoria, elected Fellow 1867, was announced.

The President stated that His Majesty the King had graciously consented to continue to be the Patron of the Royal Institute of British Architects, and to offer, as was done by Her late Majesty for over fifty years, an annual Royal Gold Medal, to be presented on the nomination of the Royal Institute to a distinguished architect or architectural writer of any nationality.

Mr. C. Harrison Townsend read a paper on

The Art of Pictorial Mosaic.

The lecturer remarked on the paucity of published matter dealing with the history and practice of moasaic work as a whole. M. Gerspach's "La Mosaïque" and Professor Middleton's short article in the "Encyclopædia Britannica" represented the only endeavours towards a general history or a comparative criticism of the art. For the purposes of the present paper he proposed to consider the subject from the period when Christianity claimed the aid of mosaic work. The earliest examples handed down to us are of the fourth century. Ciampini's theory that the church of St. Costanza in Rome had been originally a temple of Bacchus was based on the nature of the ornament; but M. Müntz holds that the mosaics are of Christian origin, though under strong Pagan influence. A fragment of mosaic found in the cemetery of St. Callisto, Rome, and now in the Vatican, is apparently of the fourth century, and is interesting as being probably the earliest representation of the traditional features of Christ. The home of the martyrs Pudentiana and Prassede, consecrated by the Pope in the second century, was largely altered in the fourth to adapt it to the purposes of a church, when the very beautiful mosaic work, still existing though much restored, was executed on the vault of the apse. This work, which shows the high level to which mosaic art had attained in the fourth century, may be regarded as a compendium of the early or Roman manner, untinctured by the influence, later to be predominant, of the Greek canons and ideals Constantine, after his removal of the seat of empire to Constantinople in 330 A D., especially favoured the mosaic artist, and during his reign and that of his immediate successors a great number of churches in the eastern part of the empire were beautified by this art. St. George's, Thessalonica, was cited. The mosaics in the Baptistery at Naples are of the fourth century, which closed under the growing influence and domination of the Eastern or Byzantine Empire.

In the fifth century (*c.* 422 A D.) the Empress Galla Placidia, widow of Constantine II., made Ravenna her seat, and it is to her that the city owes three of its treasures—the Baptistery of the Orthodox, the Chapel of the Archbishop and the Mausoleum of the Empress herself. Describing and illustrating the mosaic work in these buildings, the author drew attention to the pagan symbols introduced in the Christian subjects represented, and remarked on the distinctively Roman treatment of the forms depicted. The very beautiful work in the Mausoleum of Galla Placidia seems, with its absence of gloom yet its dignity of invention, its Roman forms yet its Christian thought, to form the typical example of the fusion of the new and the old creeds. Other examples of fifth-century work still existing were referred to, viz those of St. Ambrogio, Milan, and St. Sabina, Rome, and the series of mosaics on the Triumphal Arch of St. Maria Maggiore. These latter are particularly important among the early works of Byzantine art, and show the last effort for many centuries towards dramatic representation, before pictorial art became crystallised into conventional and traditional forms. The fairly precise reminiscences of the fifth century contained in the mosaic work of the Basilica of St. Paolo fuori le Mura, which retains the scheme of the original mosaics of Pope Leo I. (440-61), show how the earlier—the Roman—symbolism was passing away.

The sixth century is rich in material for study, in both the eastern and western portions of the empire. The gorgeous mosaics of St. Sophia, Constantinople, completed under Justinian in 559, lay concealed for many centuries under coats of whitewash. But in 1847 and 1848 an opportunity of studying the Byzantine mosaics occurred, and Salzenburg made his well-known series of drawings of the old work. Judging from these, there seems to have been a consistent scheme of decoration, a general tone of harmonious quiet colour, with silver largely used for the high lights, and soft green or blue folds in the drapery, and throughout a feeling of the antique or Roman style as it began to be influenced by the sterner, more rigid canons of the East. Touching the present condition of the mosaics of St. Sophia, the author stated that five years ago he examined, with the aid of strong glasses, the ceiling of the gallery, and came to the conclusion that the present whitewash serves as substitute for now absolutely vanished mosaics. The author then passed to sixth-century mosaics at Ravenna, describing those at the Baptistery of the Arians, or St. Maria in Cosmedin; St. Apollinare Nuovo, built in 500 A.D. for the use of the unorthodox, and converted into a Roman Catholic church in 570, traces of both influences being present in its treatment; St. Vitale, built A.D. 526, and utilised as a model for St Sophia, Constantinople; and St. Apollinare in Classe, still, for all its sadness of decay, a magnificent contribution to the history of the art. Regarding the art at Rome at this period, the dominance of the Northern races, after the accession of Theodoric in 493, had led to the selection of subjects appealing to and models selected from the strenuous and vigorous Northerner rather than the dreamy and ascetic Eastern. The work is characterised by freshness of treatment, but with a kind of grim hardness in the type of countenance selected—the Roman ideal at base, but with an all but barbaric respect for physical strength.

Seventh and eighth century examples—St. Agnese fuori le Mura and St. Theodore, Rome—were briefly described.

The achievements at Rome and Constantinople during the ninth century must be contemplated in the light of the great dispute of the preceding century as to the representation in religious subjects of the human or divine-in-human form, and the effect that the various Church rulings had exercised on Christian pictorial art. The result was to check the art along the particular lines affected, but to lead to a reaction during the following century, and the ultimate production of many great and important works. Works of the date referred to included the mosaic in the sanctuary of St. Ambrogio, the very beautiful and gorgeous mosaics of the church of St. Prassede, Rome, and those at St. Marco and St. Cecilia, Rome.

From the second quarter of the ninth century till near the middle of the twelfth the art underwent in Rome a period of absolute stagnation. During this period, however, notable work was done at St Mark's, Venice—work in which a Greek or Byzantine influence is manifest. At Torcello in the twelfth century a magnificent mosaic was placed on the apse ceiling.

The existence of a purely Sicilian school in Sicily is doubtful; it would rather seem that the Normans under Roger II. called to their service Greek artists. There is much similarity of sentiment between the St. Mark's and the Sicilian work. Reference was made by the author to work of the twelfth century carried out in the following buildings:—La Martonara, Palermo; the Cappella Palatina, the cathedral at Cefalù, in which the characteristics of Sicilian work and its affinity with that done at the same time in Venice are evident; the Monastery of Daphne, near Athens; the Church of the Holy Sepulchre, Jerusalem; and the Church of the Nativity, Bethlehem.

In the Western world the twelfth century produced at Rome the apse of St. Maria in Trastevere, the character of the work still Roman rather than Greek or Byzantine; St. Francesca Romana, often ascribed to the ninth but, as De Rossi maintains, really of the twelfth century—a very unusual and beautiful design; St. Clemente, Rome, dated by M. Gerspach as of the thirteenth century, but which the author placed as early in the twelfth, the work exhibiting a treatment rather apart from the usual motifs of Roman work.

In the thirteenth century the great scheme at St. John Lateran was executed for the Pope Nicholas IV. by the master-artist Jacopo di Torrita or Torriti, the design being signed by Jacopo and his worthy assistant, Camerino.

The author next discussed the mosaic decoration carried out in the same century in the Baptistery at Florence and in the cathedral at Pisa, and the further prosecution in the thirteenth and fourteenth centuries of the mosaic scheme for St. Mark's, Venice.

At Torcello the school of mosaic work showed a pronounced difference of aim and style from that of the same period in Venice. In this more Byzantine manner was executed the strange composition on the west wall of the cathedral—a work more probably of the fourteenth century than of the twelfth, to which M. Gerspach assigns it. The Greek mosaists had now become widely spread over the north of Italy, and had done notable work at Florence, Pisa, Siena and Orvieto.

Rome saw two important works achieved in the fourteenth century, of which perhaps the principal was the completion of the fine work in the apse of St. Maria Maggiore, commenced by Jacopo de Torriti, and of the panels below it executed by Gaddo Gaddi.

In the fifteenth century Baldovinetti executed one of the overdoor spaces at the Baptistery, Venice, and his pupil and Michel Angelo's master, Domenico Ghirlandajo, commenced in the cathedral the decoration of the chapel of St. Zenobio. The really important work of this century occurs in the chapel of the Mascoli in St. Mark's, Venice. These represent the principal legends of the Virgin, and in composition, colour and execution are alike admirable. It is with these panels that one approaches the end of the art of mosaic work; from this point one sees the mosaist, designer and executant in one, make room, to the ultimate destruction of his art, for the painter, who called to his aid the "dull mechanic" hand of a workman to represent servilely oil-painted pictures by means of cubes of glass.

The state of design rapidly became worse and worse. The seventeenth and eighteenth centuries saw work accepted and praised, though it transgressed in its realism, its exaggerated movement, its rendering of accidentals, all the rules and canons that should regulate mosaic work.

But it was reserved for the nineteenth century to strike the worse note of imitation, and not only to execute indifferent mosaics, but to falsify the history of the Church as recorded by and on its walls, by treating their mosaic designs as pseudo thirteenth-century work.

The author concluded with some observations on recent mosaic art in England. It cannot be said that some of the works are successes, save as to execution. The artist seems unwilling to suppress, as the loyal mosaist should, many of the attributes of which, under other circumstances, he might justly be proud. The author expressed his conviction, however, that it would have been impossible to find in either France or Italy an artist who would have carried out work recently executed in England without falling still more egregiously into the errors which the great examples of the past showed to be present therein.

Mr. Walter Crane moved a vote of thanks to Mr. Townsend for his admirable historical account of the art of mosaic working from the earliest period down to the present time. The paper went thoroughly over the ground of the subject, and an extensive view of such work was given. Mosaic in small patches lost its meaning and should therefore be avoided. Mosaic was one of the arts which needed a clear space to render it full justice. The speaker said he very heartily echoed the wish that more decoration might appear in the sordid and great world of London.

Mr. C. Anning Bell seconded the vote, supported by Messrs. T. Spence, J. D. Crace and Lieut.-Col. Prendergast.

THE ROYAL DUCHESS THEATRE, BALHAM, S.W.*

THE Royal Duchess Theatre, Balham, which has just been completed, has been erected on a commanding site in the High Road, Balham. The theatre is owned by a company, under the title of the Duchess Theatre, Limited. The building has been planned on the most unique lines, and is as perfect and complete as skill and outlay can make it. The style is Italian Renaissance. The cost was about 35,000*l.*

The main frontage is 70 feet wide to the High Road, is entirely of stone, and is crowned by a copper dome, again surrounded by an upper colonnade and cupola, on which is poised a winged figure. The upper colonnade is about 120 feet above the pavement level, and from this point a powerful revolving searchlight sends forth flashes of coloured light.

Entry is made to the better parts of the house through a handsome lobby, and thence into the grand crush-room, an apartment about 30 feet by 20 feet, a feature of which is a balcony carried around the walls of this room, entirely of fine Italian marble, above which is a painted and enriched ceiling. Fine saloons and retiring-rooms are provided throughout for each section of the audience.

The auditorium is the chief feature of the building, and has been arranged on the most perfect if novel lines. The main walls form part of a circle, which is completed at the level of the main ceiling, whilst the different balcony fronts and boxes are schemed within the same radius as the main walls, thus giving a handsome and unique effect to the interior of the house. On the main ceiling is painted a representation of Shakespeare's "Midsummer Night's Dream," and from the balcony fronts are modelled cupids holding candelabras. From the main ceiling above are suspended copper vases, supported by chains of the same metal, with dragons' heads showing electric lights around each vase. Around the "sunlight" a fine effect is again created by a number of copper electrical radiating rings, each ring being supported by chains, and giving a final effect of beauty and richness to the auditorium.

The decorations and furnishings throughout the building are of a sumptuous description, and are of French Renaissance design. The draperies and upholstery throughout are carried out in a selected tint of copper colour. The tableaux curtain and other draperies, which have been executed in Vienna, are richly embroidered in accordance with the selected tone of colour. Lady patrons have the benefit of a specially designed apartment, wherein they can partake of refreshments without having recourse to visit the saloon should they so desire.

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* For Illustration, see *The Architect*, March 15.

The theatre has been planned on the two-tier system, and whilst having all its advantages with regard to easy rake of the circles, presents the appearance of a three-tier house. The building is lighted throughout by electricity, a complete gas installation being provided in case of any temporary failure of the former. The theatre is heated throughout by low-pressure hot-water pipes and radiators, whilst numerous hydrants and other fire appliances are provided in accordance with the London County Council's regulations. The stage is entirely cut off from the auditorium, and is provided with a double asbestos and steel-framed fireproof curtain. The theatre throughout has been constructed of concrete and steel, and is thoroughly fireproof. Every possible consideration has also been given to the artists, for whom are provided numerous well-ventilated dressing-rooms, with hot and cold lavatory accommodation and heating apparatus.

In addition to the usual attractions of a theatre, Mr. Sprague has provided in the auditorium, for the first time in this country, a grand organ, similar in construction to those which have been constructed in one or two cities in the United States. The organ, which has been carried out on the pneumatic system, is controlled and entirely hidden within certain portions of the decorations, and so arranged with regard to the acoustics of the building that the most perfect graduation and intensity of tone can be produced. In order to give some idea of the effect which can be produced from this organ it may be stated that it is equal to a band of 100 performers. The directors anticipate that there will be considerable public appreciation of this novel feature, and whilst many purposes are served by the introduction of this new effect, it proves a considerable boon to patrons of the early doors, who have the benefit of a musical selection to cut short the usual somewhat weary wait pending the rising of the curtain.

At the end of August last the commemorative or completion stone of the building was laid by Mr. Charles Wyndham, who very kindly officiated at this interesting ceremony and launched the Duchess Theatre on, it is hoped, a prosperous and successful career.

The following contractors and others have been engaged upon the various works:—Mr. Walter Wallis, Balham, builder; Messrs. Bladen & Co., Glasgow, constructional ironwork; Messrs. De Jong, Camden Town, have executed the whole of the costly decorations—M. Sicard (Messrs. De Jong's specialist) is responsible for the painting in the auditorium of Shakespeare's "Midsummer Night's Dream," &c.; Messrs. Dean & Co., Birmingham, provided furnishing throughout; Mr. Roger Dawson, electric-light fittings; Messrs. Vaughan Brown, Kirby Street, E.C., gasworks and heating apparatus; Messrs. Merryweather & Sons, London, fireproof curtain and hydrants; Messrs. Walker & Sons, Bunhill Row, bar fittings, cabinets, &c.; Mr. J. W. Cawdery, Stoke Newington, stage mechanism. Mr. A. J. Black has been responsible for the beautiful act drop representing "Venus en Voyage;" Messrs. Bounds, Kennington, marble work; Messrs. Harris, Chelsea, statuary; Mr. Eustace Ingram, Clerkenwell, has carried out the entire work of the grand organ, under the direction of Mr. Edwin H. Lemare; Mr. J. T. Digby, Shaftesbury Avenue, has acted as consulting electrical engineer for the whole of the lighting, &c.

ARCHITECTS' BENEVOLENT SOCIETY.

THE annual general meeting of the Architects' Benevolent Society was held at the Royal Institute of British Architects on the 13th inst., Mr. Wm. Emerson, the president of the Society, in the chair. There was a good attendance, including Mr. J. Macvicar Anderson, Mr. George Inskipp, Mr. H. L. Florence, Mr. George Scamell, Mr. E. Monson, Mr. Graham C. Awdry, Mr. J. T. Christopher, Mr. Zeph. King, Mr. Hilton Nash, hon. treasurer, and Mr. Percivall Currey, hon. secretary.

The President, in moving the adoption of the report, made an appeal for further support, pointing out that the Society had now existed for over half a century, and that during that time it had been the only Society organised to assist architects who had fallen on evil days.

On the conclusion of his speech Mr. Macvicar Anderson promptly promised a donation of 50*l.*, stating that he would increase the amount to 100*l.* if nine other gentlemen would contribute a like sum. Subsequently the President promised a donation of 50*l.* if Mr. Anderson's appeal were responded to, and Mr. J. T. Christopher and Mr. George Inskipp gave each a donation of 25*l.*

On the motion of Mr. Macvicar Anderson the Council for the ensuing year of office were elected as follows:—President, the President of the R.I.B.A., Mr. T. M. Rickman, Mr. R. A. Briggs, Mr. Arthur Cates, Mr. E. A. Gruning, Mr. G. T. Hine, Mr. Zeph. King, Mr. H. C. Boyes, Mr. G. Inskipp, Mr. J. T. Wimperis, Mr. Arthur Green, Mr. E. Monson, Mr. Sydney Smirke, Mr. H. L. Florence, Mr. Graham C. Awdry, Mr. J. T. Christopher and Mr. G. H. Fellowes-Prynne.

Mr. W. Hilton Nash and Mr. Percivall Currey were re-elected in their offices as hon. treasurer and hon. secretary; and Mr. Wm. Emerson and Mr. Arthur Cates were elected trustees in the place of the late Mr. Charles Barry and Mr. Henry Currey.

A donation of 100*l.* from Mr. C. Morrison was announced.

The report stated that notwithstanding the many calls upon private benevolence during the period under review, the income has not only been maintained, but increased. As a special effort was necessary to enable the Council to carry on their philanthropic work without rejecting the claims of deserving applicants for relief, the President, with the honorary secretary, undertook to issue a letter of appeal to members of the profession in the United Kingdom and Ireland, and such a letter was sent out in June last. In view of the large number—some 5,000 architects—to whom the appeal was made, the result was scarcely as favourable as might have been anticipated, but it was successful in so far that it enabled the Council to afford a larger measure of practical help where it was urgently needed than would otherwise have been possible, the amount received or promised in new annual subscriptions being 98*l.* 9*s.* 6*d.*, and in donations 151*l.* 17*s.*, while the total cost of issuing the appeal was 38*l.* 8*s.* 8*d.*

The Council, at the suggestion of a subscriber, have had also under consideration the desirability of issuing voting papers to members of the Society, and have arrived at the decision that such a system, instead of advancing the objects of the Society, would be a contravention of by-law 68, which states "that the names of persons relieved by the Society shall not be published." The Council feel that as the Society exists to assist members of a profession, or those dependent on them, privacy forms an essential part of its scheme of benevolence, and that the publicity which a system of voting entails would prevent many of those whom it is most desired to reach from seeking the help of the Society. The Council would further remind members that they have the privilege of nominating applicants for relief according to the amount of their subscription.

The number of applications for relief has been greater than in any previous year, being fifty-five, as compared with forty in 1899. The sum thus distributed was 677*l.* 13*s.*, while 112*l.* 10*s.* was paid to pensioners, making the total sum expended in relief 790*l.* 3*s.*

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

THE seventh ordinary meeting in connection with the Leeds and Yorkshire Architectural Society was held in the Society's rooms, Park Street, Leeds, on Monday evening. A lecture was to have been delivered by Mr. Francis Bond, but that gentleman being unable to be present the business was purely formal, and comprised the election of the following officers for the coming session:—President, Mr. T. Butler Wilson; vice-presidents, Mr. C. B. Howdill and Mr. R. Wood; hon. treasurer, Mr. W. H. Thorp; hon. librarian, Mr. W. H. Beevers; hon. secretary, Mr. H. S. Chorley; Council, Messrs. F. W. Bedford, G. F. Bowman, A. E. Dixon, A. Hill, S. D. Kitson and W. G. Smithson. Messrs. H. Ambler and H. E. Illingworth were elected hon. auditors. Mr. Bedford, it will be noticed, has been succeeded by Mr. Chorley as hon. secretary. The latter's address is 15 Park Row.

The prize drawings from the Royal Institute of British Architects were on view at the Leeds Society's rooms during the evening, and excited considerable interest. They will remain here for a few days before being forwarded to the next centre.

EDINBURGH ARCHITECTURAL SOCIETY.

A MEETING of the Edinburgh Architectural Society was held on the 13th inst. in Dowell's Rooms, Edinburgh, Mr. A. F. Balfour, president, in the chair. Mr. J. Stuart Syme gave a lecture upon "Sanmicheli and his Work," in which, after referring to Sanmicheli's position in regard to the architecture of the Italian Renaissance, he described his early training and studies at Rome and Orvieto. The great achievements of Sanmicheli in military architecture, and the palaces and ecclesiastical work designed by him, were also referred to, and the lecture concluded with a few remarks upon his chief artistic and personal characteristics. The paper was illustrated by limelight views.

NOTES AND COMMENTS.

If considered abstractedly, so to speak, the ground opposite Buckingham Palace must be acknowledged to be as suitable a site for the Victorian Memorial as can be found in the metropolitan area. The long line of the Mall will form an excellent approach and will enable a view in perspective to be obtained which will, of course, vary according to distance from the object. There will also be views from north and south which will present the memorial under different aspects. Big as is Buckingham Palace, yet from its peculiar character it is not likely to compete in interest with any work of an architect and sculptor produced in our time. The designers of a memorial should be looked upon as having failed unless their labour can assert itself against such a background as the Palace. We might even hope that from the contrast which is inevitable it will be thought necessary to erect a new residence for the Sovereign. There are also the advantages arising from the vicinity of trees. On the other hand, the site which has been fixed on by the memorial committee is wanting in historical associations. The palace was only occasionally used by Queen Victoria, and the owners of the earlier buildings which stood there are not remembered with much respect. The alternative site at Westminster, although without the material advantages offered by a part of St. James's Park, is in a historical sense one of the most memorable places in Europe. It is true there are already several statues of English worthies placed near the Abbey, and by a remarkable coincidence they were all, with the exception of Canning, among the statesmen who served Her late Majesty, and "who knew the seasons when to take occasion by the hand and make the bounds of freedom wider yet by shaping some august decree." A memorial of the Queen in such a position would hereafter recall many events in her reign. But the committee no doubt have studied the subject from all points of view, and it may be concluded that their determination deserves to be accepted from its fitness.

The paintings by English artists in the Louvre are not numerous. The authorities would willingly add to them, but the high prices are an obstacle which is not easily surmounted. Three or four years ago some portraits by Raeburn were remarked by amateurs in one of the Paris exhibitions, and pressure was brought to bear on the conservators of the galleries in order that examples of the painter should be acquired. At length a portrait of Hannah More has been secured, and the interest of it is increased by the admiration of Rousseau for the author of the "Search after Happiness," "Cœlebs in Search of a Wife," "The Religion of the Fashionable World" and other popular works. According to De Quincey, in appearance Hannah More "was soft, delicate and agreeable, and in youth must have been pretty. Her eyes only were too bright for absolute repose of countenance; else hers would have been nearly quiescent." The portrait in the Louvre is known from engravings, and is an excellent addition to the few English pictures.

Some years since there was talk in Paris studios about the romantic marriage of Alphonse de Neuville, the friend associate and rival of M. Edouard Detaille as a painter of military subjects. Soon afterwards he died, regretted by all lovers of art. Madame de Neuville has also passed away. By her will it is ordered that all her jewels are to be sold, and the money derived from them is to be handed over to the Académie des Beaux-Arts in order to found a biennial prize, which is to be awarded to a military painter whose age does not exceed thirty-eight. That age corresponds with de Neuville's when he painted his masterpiece, *Les dernières Cartouches*, in 1873. He was never a poor man; indeed, few French painters were born in such affluent circumstances. His parents looked forward with confidence to a brilliant official or political career for him. But after a university training he entered the Naval School, and there the drawing-master recognised that de Neuville was a born painter. His family insisted that he should study law in Paris, but most of his time was spent in drawing soldiers. After much opposition his father agreed to consult some eminent painters about his capabilities. Their opinion of his drawings was not favourable. However, when he exhibited a battle-piece in the Salon of 1859 it received a medal, and what was more, Eugène Delacroix encouraged him to follow art. He did not content himself with painting pictures—he became one of the most popular of illustrators. Wey's big book on Rome owed much of its success to de Neuville's vigorous drawings, and he contributed largely to various journals. The Government bought one of his pictures for St. Omer, the artist's birthplace. In 1870 he had an opportunity of witnessing and sharing in scenes of war. His paintings and those of his friend, M. Detaille, are the best painted record of the Franco-German war. Reproductions of them became popular and de Neuville's fame was secured.

In one of his "Roundabout Papers" Thackeray expresses his wonder why the citadel of Antwerp should be looked upon as strong. "We expect," he wrote, "a citadel to look like Gibraltar or Ehrenbreitstein at least. But in this one there is nothing to see but a flat plain and some ditches, and some trees and mounds of uninteresting green." The Antwerp fortifications were well tested at one time. Whether under the new conditions of warfare they would preserve the city is a question on which experts are divided. In Antwerp much else has to be borne in mind besides questions of defence in case of war. Merchants and other traders form a powerful body, and they have long maintained that the fortifications, especially those constructed since 1859, are in their way. They obtained the appointment of a military committee to investigate the subject. The report which has been prepared describes the fortifications as obsolete and as impeding the expansion of Antwerp. New forts of an improved type are therefore to be constructed, at a cost of over 1,500,000*l*.

The various States of America appear to be running a race in order to discover which will be the most successful in securing edicts to compel architects to be registered. We have already noticed some of the conditions of the contest. In the State of New Jersey it is proposed to form a State Board of Architecture consisting of five residents who have been in practice for at least ten years. The board will adopt regulations for the examination and licensing of architects. Two examinations are to be held in a year, and any person who is more than twenty-one years of age, on the payment of 5 dols., can offer himself for examination. If a candidate's examination is satisfactory to the majority of the board, he can obtain a license authorising him to practise the profession of architecture upon the payment of an additional fee of 15 dols. Those who are engaged in the practice of architecture are to present an affidavit to that effect, or a license from a similar constituted board in another State, and all members of the American Institute of Architects are to be entitled to receive the license upon the payment of a fee of 5 dols. Each license is to be recorded in the clerk's office of the county of the holder's residence, or, if non-resident of the State, in the county of the State in which he shall have an office. The State Board of Architecture is to file in the office of the Secretary of State a list of all licensed architects, and to report to the office all licenses granted by the board within ten days after they are granted. Any person who practises architecture without a license is to be considered as guilty of a misdemeanour, and upon conviction shall be fined not less than 50 dols. and not more than 500 dols. for each offence, or imprisonment in the county gaol for a period of not less than one month.

ILLUSTRATIONS.

STATUE OF RICHARD CŒUR DE LION, WESTMINSTER.

CATHEDRAL SERIES.—YORK MINSTER: ENTRANCE TO THE SOUTH CHOIR AISLE.

ST. MATTHEW'S, CHAPEL ALLERTON, NEAR LEEDS: THE NAVE.

PREMISES, HOLLOWAY ROAD.

DILAPIDATIONS.*

THE subject of this paper may be thought to come more within the province of the surveyor than the architect, and doubtless, strictly speaking, this is so, but to so many country members of this Society the various and in many cases intricate questions arising in the relation of landlord and tenant have to be dealt with in the ordinary everyday practice, that a paper, and particularly the discussion which it is hoped will ensue, may be of some practical use, at any rate to the younger members.

That the subject is worthy the consideration of architects may be inferred from the fact that as long ago as 1842 a committee of the Royal Institute of British Architects was appointed "to investigate and report upon the practice in valuing dilapidations and on the state of the law by which such valuations were effected," and although many legal decisions have been given in recent years bearing upon the question, and many papers read at the Surveyors' Institute and books published by lawyers and surveyors, the report of the Institute committee contains most useful practical information, and will be found to be of great assistance in acquiring a proper appreciation of the subject.

It must not be expected that within the narrow limits of a paper the subject can be exhaustively dealt with; at the most, some of the matters falling under the head of dilapidations can only be referred to very briefly; and one of the most important divisions of the subject, viz ecclesiastical dilapidation, will not be touched upon for the reason that the various questions arising under the Ecclesiastical Dilapidations Acts are, by the great importance of the subject, entitled to, and on some future occasion may form, the subject of a separate paper.

It is proposed to discuss shortly the general principles applying to the common law liability to repair, as applied to a tenant for years and a tenant for life, though this might be thought to be more a matter for lawyers than architects; the greater part of the paper will be devoted to the principles and practice of surveying and valuing dilapidations to buildings arising under the more common forms of covenants entered into by landlord and tenant.

Dilapidation is variously defined. One of the best definitions from the architect's point of view is that given in the report of the committee appointed by the Institute, previously alluded to; there it is stated that "Dilapidations are in usual practice considered to be those defects only which have arisen from neglect or misuse, and not to extend to such as only indicate age so long as the efficiency of the part still remains; but if the effects of use or age have proceeded so far as to destroy the part or its efficiency in the structure, this argues neglect or misuse, it being the presumption that at the commencement of the term the tenant was satisfied that every part was sufficiently strong to last to its close."

Dilapidations arise from waste, either voluntary, permissive or malicious, the term "waste" being thus defined by Grady, viz.:—"Whenever there is a particular estate in lands or tenements which must, after the determination of such estate, devolve upon another, any defect in their condition is properly dilapidation, and the act of permitting or committing such defect is called waste."

It is necessary to consider waste in some detail and to refer to the principal divisions which are, as stated above, voluntary, permissive, equitable or malicious. There is also ameliorating waste, as to which the architect is not often troubled. Of these the first two divisions, *i.e.* voluntary and permissive waste, are of great practical importance to the architect, being the kinds most prolific in disputes. A few words will make the meaning of each kind clear

Voluntary waste is actual or commissive, as by felling timber, pulling down buildings or altering their structure, removing wainscotting or other things once fixed to the freehold, opening mines or pits, whatever does a lasting damage to the freehold or inheritance, the kind of damage that is sometimes provided against by express stipulation in the lease, such, for instance, as not to convert a house into a shop.

Permissive waste is a matter of negligence and omission on as by allowing a building to fall or rot for want of necessary reparations, the kind of damage in fact which, under a lease, is invariably provided against by express agreement to repair.

Equitable or malicious waste consists in acts of gross damage, usually the cutting down of ornamental timber by a tenant without impeachment of waste.

Ameliorating waste is such voluntary waste as improves the demised premises, such, for instance, as where the tenant puts a new front to his house. In respect to such waste it seems that unless substantial damages be proved the tenant will not be interfered with by injunction.

Having considered the meaning of the terms "dilapidation" and "waste," it is proposed to consider the obligation of landlord and tenant under two heads, viz:—

1. The obligations imposed by the implied covenants under the common law.
2. The obligations imposed by the repairing covenants in the lease.

First then, with regard to the implied legal liability to repair under the common law Generally speaking the lessor is under no liability whatever to do repairs. The general principle governing the case is that landlords are not liable to tenants in any way; the burden of repairs has always by the spirit of the common law been thrown upon the tenant, for by letting an unfurnished house the lessor does not thereby imply that it is reasonably fit for occupation or that the house will last out the term or that it will receive proper support, nor is the landlord bound to rebuild in case of fire, though the rent would still be payable. Where, however, the premises become subject to a structural defect, such as the drains, which may give rise to a nuisance or be dangerous or injurious to health, the tenant may, if the steps directed by the Public Health Act be taken, throw the liability for this repair or removal in the absence of any agreement relating to the matter upon the landlord. There is an exception to the rule that the lessor is under no liability to a tenant in the case of small tenements, for under the provisions of the Housing of the Working Classes Act (53 & 54 Vic. c. 70) a warranty that the tenement is reasonably fit for habitation is implied in the case of tenements let to members of the working classes at rents varying according to the locality; thus in London the rent must not exceed 20*l.*, in Liverpool 13*l*, in Manchester and Birmingham 10*l.*, elsewhere in England 8*l.*, in Scotland and Ireland 4*l.*, but the landlord may contract out of his liability under this Act, and in practice it is found that he generally does so.

It often happens that during a tenancy the drains prove defective, causing possible illness, expense and death, but if the landlord has given no undertaking in the form of a guarantee that the sanitary arrangements are satisfactory, he cannot be called on by the lessee except as stated above to put right what is wrong, nor to recompense the tenant for the expense and loss he has been at Of course, if a representation has been made that the drains are satisfactory, although the undertaking is not in writing, it may be a different matter and the landlord might be liable, and as, generally speaking, tenants ask about the sanitary arrangements, care should be taken in replying or it may be found that a guarantee can be construed If the premises are let furnished it is an entirely different matter, for in that case there is an implied covenant on the part of the lessor that the house is in a fit condition for occupation.

One of the leading cases on the implied covenant that a furnished house is fit for immediate occupation is that of Wilson and Another *v.* Finch-Hatton (Exchequer Div. 2, 1876-77). In this case the defendant agreed to rent the plaintiffs' house for three months from May 7, but having at the beginning of the tenancy discovered that the house was, owing to defective drainage, unfit for habitation, refused to occupy. The plaintiffs immediately set about repairing the drains, and on May 26 tendered the house in a wholesome condition to the defendant, who refused to occupy or to pay rent. The plaintiffs thereupon sued for the rent. It was held that the state of the house at the beginning of the intended tenancy entitled the defendant to rescind the contract, and that he was not liable for rent or for use and occupation. The decision in this case is founded on the well-known case of Smith *v.* Marrable, generally alluded to as the famous "bug" case, which was decided as long ago as 1843, and which decided that it is an implied condition in the letting of a furnished house that it shall be reasonably fit for habitation, and that if it is not fit the tenant may quit without notice, and he would be justified in repudiating the tenancy, and if he has incurred loss be entitled to recover damages.

With regard to the implied liability of the tenant under the common law, his responsibility is much greater than that of the landlord. There is the implied covenant to use the premises in a tenant-like manner. In dealing with houses or buildings this obligation resolves itself into one to do repairs of a certain kind, the amount or character of which in the case of leases for years has apparently never been defined with precision, the reason probably being that such instruments almost invariably contain an express covenant which displaces the implied one by the tenant to the same effect.

It will seem, however, from the authorities that a tenant at will or a yearly tenant is bound to keep the premises wind and water-tight, but as to this expression there seems to be considerable doubt in the minds of lawyers what it really amounts to. Woodfall considers that, on the whole, it is understood that the expression ought to be construed strictly in favour of the tenant, and quotes as an example that the broken glass of windows need not be replaced by new glass, but that the exclusion of wet by boards or other unsightly modes would be sufficient.

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* A paper read before the Society of Architects on March 21 by Mr. W. J. Jennings, F.S.I. (Member of Council).

In the case of a tenant for years he is liable under the implied covenants for permissive waste, but not for damage by accidental fire.

A tenant for life is, in the absence of covenants to the contrary, under no implied liability to repair.

We now pass to the consideration of the second head of the subject, viz. the obligation imposed by covenant.

The distinction as between the common law obligation to repair and the liability as expressed by covenant is thus expressed in Gibbon's work, viz.:—"The obligation imposed by the covenant to repair differs from the common law obligation against permissive waste in this. The common law obligation is merely to guard the fabric of the building from decay, and is not infringed by an external dilapidation unless the fabric is injured in consequence. By the covenant the tenant is unconditionally bound to repair all dilapidations, whether the fabric of the building is injured or not; injuries to the building caused by inevitable accidents are expected from the common law obligation, but not from the obligation of a general covenant."

In the practice of valuing dilapidations under a repairing covenant the architect has to interpret the words of the covenant and then survey the property and prepare the schedule and claim, and it will be convenient to consider the subject under these two branches.

For the proper interpretation of the repairing covenants the architect must have some acquaintance with the law upon the subject as laid down in some of the leading decided cases, for it is obvious that without such knowledge it would be impossible to properly advise upon the complicated and difficult cases that occur in practice. It may be urged that it is the duty of the lawyer to define the exact meaning of the words in the lease, and though doubtless this is true, yet in practically every case it is found that the lawyer cannot interpret the words of the repairing covenant without the assistance of the architect, unless he is possessed of more technical knowledge than one can reasonably expect a lawyer to possess.

Speaking broadly, the repairing covenant in the lease generally consists of two divisions—(*a*) An undertaking in general terms; (*b*) an undertaking to do certain acts of reparation, such as painting and papering, at specific periods. With regard to the general undertaking, it varies very much. In the more common forms it consists of an undertaking either to "keep and leave the premises in good tenantable repair," or to "keep and leave the premises in substantial repair."

There are, of course, innumerable other forms with ill-defined shades of difference, and, of course, reservations may be inserted to protect the lessee, such as "regard being had to the present condition" and "fair wear and tear excepted"; but with these special conditions it is not proposed to deal further than to say that in the former case a most careful note of the state and condition of the premises at the commencement of the tenancy should be made and agreed upon by both lessor and lessee, and with regard to the words "fair wear and tear excepted," if these words are allowed, it renders the liability of a tenant, who has been careful to use the premises as a careful tenant should, for the purpose for which they were let, comparatively slight.

In considering repairing covenants for a proposed lease, the first point to be mentioned is the desirability, in fact, the necessity, if the tenant is to be properly protected of making a survey of the premises, for as previously pointed out, the presumption is that at the commencement of his term the tenant was satisfied that every part was sufficiently strong to last to its close. But how often is it that an architect is instructed to survey before the lease is signed? It is probable that not in one lease in a hundred is an architect retained on behalf of a lessee. It is not until the latter has had a notice served calling upon him to make good certain dilapidations, or claiming damages in lieu thereof, that he consults his architect. It should be pointed out to a tenant that a preliminary survey is absolutely necessary, when it is remembered that where the lessee covenants to "keep and leave the premises in repair" he is bound to put them in repair, if at the commencement of the term they require it. Payne *v.* Haine, 16 M. & W. 541, decided this point. This view cannot be generally known by tenants, for one is constantly met with the remark by the lessee when advising, after he has been served with a notice, that "the premises are in a better state than when the lease was entered into." It should also be remembered that the measure of damages for want of repairs during the existence of the lease is not necessarily the amount which it will cost to execute the work; for not only is the tenant bound to carry out the repairs necessary, but is liable in damages if it can be proved that the value of the reversion is lessened. There is a good deal of misconception as to this, but there is no doubt that the architect is justified in preparing the schedule and claim on behalf of the landlord, to include, in addition to the repairs, the damage that he estimates the reversion has suffered in consequence of failure to carry out repairs at the right moment. The law holds that the legal measure of damage is not necessarily the amount that would be required to put the premises into repair, but the amount to which the reversion is depreciated in marketable value, an amount which, under different conditions, varies immensely from merely nominal damages in the case of a lease having many years to run, increasing more and more the shorter the residue of the term happens to be. To give an instance: suppose when making the survey it is found that a lead gutter has been leaking, it may be for some considerable time, it might and probably would not be a proper measure of the damage to take simply for soldering up the crack or the renewal of the gutter, since the leakage that has been going on for some time has damaged the gutter-board, bearers and plate not so much as to cause actual decay noticeable at the moment of the survey, but to have started the woodwork rotting; in addition therefore to making good the lead gutter, the lessor is entitled to be paid something for the depreciation in value of the structure, admittedly a very difficult matter to ascertain, but which the lessor when the amount is ascertained, is clearly entitled to. The rule for this is laid down in the case of Williams *v.* Williams, L. R. 9, C. P. 659.

As to the covenant to repair, take the case first suggested, viz. where the lessee undertakes "to keep and leave the premises in good tenantable repair." The architect is asked to prepare a schedule of dilapidations to be served upon the tenant for him to carry out, or a claim for a money payment in lieu thereof, and the question arises, what is "good tenantable repair"? Previous to 1890 there was considerable difference of opinion as to what was meant by the words, but in that year the case of Proudfoot *v.* Hart was tried, and a determined effort made by the judges in the Court of Appeal to deal with the question, and they proceeded to give a definition of the words and to illustrate the application of the principle they laid down. Doubtless the definition given would be considered by the architect better than the practical application of it, but the case is so important that it well repays a careful study. It was a case originally tried before an official referee, who held that the tenant's obligation was to repaper with similar paper to what was on the walls before, and to repaint with similar paint to that which was on the painted portion of the premises. On appeal to a divisional court it was held that the official referee was wrong. Mr. Justice Cave stated that tenantable repair extended to commissive waste undoubtedly, and he also thought to permissive waste, and that the tenant must make good the damage going beyond ordinary wear done by his family and servants, but that he must also make good the damage done by other causes, such, for instance, as a casual storm that takes off a slate from the roof or a stone thrown from outside which breaks a window, and if the tenant neglects to do these things and the result is that still further damage is caused to the structure, then he must make good that further damage also, because it comes of his not performing his covenant to do tenantable repairs. With regard to paper and paint, he thought that the tenant could not be bound to repaper or repaint simply because the former paper was worn out and the paint worn off, so long as no damage is done to the walls and woodwork by omitting to paper and paint; also with regard to whitewashing, if the ceilings as a natural result of tenancy became black the tenant was not liable to whitewash them. So with regard to the walls, the floor, the doors, the windows and all the different parts of the house, Justice Cave thought the tenant was bound where there was a breakage, whether arising from his own family or from some external accident, to repair it to the best of his ability, but was never bound when a portion of the structure had become absolutely worn out, and it was necessary to substitute a new structure in the place of it. All he thought that the tenant undertook to do was to patch the thing up so long as it was in the nature of things right and reasonable that the thing should be patched up, but when it had got to such a state that patching up was of no avail, then the tenant was not bound to put in anything new or to pay any proportion of the cost of putting in the new thing because the old one had become unfit to discharge its duty.

Had this view been successful it would have rendered a tenant's liability under a covenant for tenantable repair even less, or at any rate of not greater value than it is now with the addition of the words "fair wear and tear excepted," but when the case came before the Court of Appeal, the Court without holding that the judgment of either the official referee or the Provisional Court was wrong, adopted the alternative of themselves saying that they did not agree with either, and then proceeded to lay down the principles upon which the case should be decided. The Master of the Rolls, Lord Esher, adopted the definition of Lord Justice Lopes as to good tenantable repair, which, he said, meant "Such repair as, having regard to the age, character and locality of the house, would make it reasonably fit for the occupation of a reasonably-minded tenant of the class who would be likely to take it,"—and he proceeded to point out that while the question whether the house was or was not in tenantable repair when the tenancy began was immaterial, yet the age of the house is very material with respect to the obligation both to keep and leave the premises in tenantable repair, it being obvious that the obligation is very difficult when the house is fifty years older than when the tenancy began; the age of the house must, therefore, be taken into account, because nobody could reasonably expect that a house 200 years old should be in the same condition of repair as a house lately built. The character of the house must be taken into account because the same sort of repairs that would be necessary to a palace would be wholly unnecessary to a cottage, and the locality of the house must be taken into account, because the state of repair necessary to a house in Grosvenor Square would be wholly different from the state of repair necessary for a house in Spitalfields. There is no liability on the part of the lessee to put the house in the same state of repair that it was in when he took it; it need not be put into perfect repair, nor is there any liability to paint or paper, but if the paint and paper is in such a condition that no reasonably-minded person of the class likely to take it would live in it, then the lessee is bound to paint and paper. Again, it does not follow that the painting and papering must be of the same class as at the commencement of the lease; there might be such expensive papers and such decorative paintwork as would be inconsistent with the requirements of the class of persons likely to take the house, and because special painting and papering existed at the commencement of the lease this would not render it incumbent upon the lessee to paint and paper of the same character. It must not be forgotten that if the premises are out of repair when the lease is entered into the tenant is bound to put them into good tenantable repair. It is also clear that the tenant must commit no waste

The definition adopted in this case is an expansion of the definition given in earlier cases, or rather a collocation of all the different parts of the definition to be collected from those cases.

The application in actual practice of the principles laid down by the Master of the Rolls is not so easy as might appear at first sight; it is much easier to speak generally of such repairs as a reasonably-minded tenant of the class likely to take the house in question would be satisfied with, than to say in precise terms what these repairs really are. The judge allowed himself a very wide latitude in the illustration he gave, for he said:—"If when the tenancy ends the paper on the walls is merely in a worse condition than it was when the tenant went in, the mere fact of it being in a worse condition does not impose any obligation on the tenant to repaper. If it is in such a condition that a reasonably-minded tenant of the class likely to take houses in Grosvenor Square (the hypothetical case with which the judge was dealing) would not think the house unfit or occupation, but suppose the damp had caused the paper to peel off the walls, and it was lying upon the floor so that the tenant would think it a disgrace, I should say then that the tenant is bound to put up new paper. The same view applies as to painting. If the painting is in such a state that the woodwork will decay unless it is repainted, it is obvious that the tenant must repaint, but I think that the obligation goes further than that. A house in Spitalfields is never painted in the same way as one in Grosvenor Square; if the tenant leaves the house in Grosvenor Square only good enough for a house in Spitalfields he has not discharged his obligation; he must paint it in such a way as would satisfy a reasonable tenant taking a house in Grosvenor Square."

There is room for much difference of opinion between the extreme instances suggested in the judgment; there can, of course, be no doubt that when the paper is peeled off the walls and lying upon the floor it would be necessary to repaper, but there is the case constantly arising in practice when the paper has been upon the walls say three or four years and is faded in places and perhaps tarnished in other places. Most new tenants, at any rate for houses of 50*l* or 60*l*. per annum, would require new paper, also painting long before it has become so bad that the woodwork was decaying; therefore in deciding upon such repairs as a reasonable tenant would require there is plenty of scope for the judgment and experience of the architect, and it is more than probable that the judges themselves will have to narrow down considerably for future guidance the application of the principle illustrated in this case

To pass to the obligation under the second kind of repairing covenant, viz under which a tenant is bound to "well and substantially repair" Great difficulty often arises in the cases of old buildings under a lease granted many years ago containing a general covenant to repair in some such terms as the following, viz. that the lessee shall "well, sufficiently and substantially repair, uphold," &c. At the expiration of the lease the tenant may be called upon to carry out such sweeping works as amount practically to rebuilding. Generally the matter is settled by a money payment; but before this can be arrived at it is necessary to say what repairs the tenant is legally liable for under the covenants of the lease, and in arriving at a decision it is very important to consider carefully the age and general condition of the building as it would have been at the commencement of the term, as where an old building is demised and the lessee enters into a covenant for substantial repair, it is not meant that the old building is to be restored in a renewed form at the end of the term, or o greater value than it was at the commencement of the term. What the natural operation of time flowing on effects and all that the elements bring about in diminishing the value constitute a loss which, so far as it results from time and nature, falls upon the landlord. This was laid down very clearly by C.J. Tindall in Gutteridge *v.* Maynard (1 Moad and Rab at p. 336), and this view was adopted in the Court of Appeal in the case of Lister *v.* Lane (1893, 2 Q.B. 217). This case is so important that a short summary of it may be found useful. It was a lease of a house in Lambeth containing a covenant that the lessees would, when and where, and as often as occasion shall require, well, sufficiently and substantially repair, uphold, sustain, maintain, amend and keep the demised premises, and the same so well and substantially repaired, upheld, sustained, maintained, amended and kept, and at the end of the term yield up to the lessors. Before the end of the term one of the walls was bulging out, and after the lease had expired the house was condemned as a dangerous structure and was pulled down; the lessors sought to recover from the lessees the cost of rebuilding the house. The house was at least 100 years old, and probably much older; it was built upon a timber platform resting on a boggy or muddy soil, and the bulging of the wall was caused by the rotting of the timber. The solid gravel was 17 feet below the surface of the ground. There was evidence that the wall might have been repaired during the term by means of underpinning. It was held that the defect, having been caused by the natural operation of time and the elements upon a house, the original construction of which was faulty, the lessees were not under their covenant liable to make it good.

With regard to the question of underpinning, which it was contended might have been done to prevent the wall bulging, it is to be borne in mind that this would not have been "repairing" the thing that was put in originally, viz the timber platform, but it would have been something of quite a different character, and this being so there was no liability upon the tenants to carry out underpinning, and it was out of the question to repair the timber platform without pulling down the house, and however large the words of the covenant to repair may be, a covenant to repair is not a covenant to give a different thing to that which the tenant took when he entered into the covenant; he has to repair that which he took, not to make a new and different thing, and, moreover, the nature and condition of the house itself, the result of time upon that state of thing, is not a breach of the covenant to repair.

The Lord Chief Justice in this case said:—"You have to look at the condition of the house at the time of the demise, and amongst other things the nature of the house, what kind of a house it is; if it is a timber house the lessee is not bound to repair it by making a brick or a stone house; if it is a house built upon wooden piles in soft ground the lessee is not bound to take them out and put in concrete piles."

It will, of course, be remembered that all fixtures and fittings belonging to the freehold are subject to the same conditions as regards repairs as the house or building itself, but in practice cases occur where the ownership of the fixtures is disputed. The rule with regard to fixtures used to be much more stringent than it is now; at one time everything affixed to the premises was held to go with the freehold, but this rule has been considerably relaxed by recent decisions. There is a very recent case bearing upon the question of fixtures, which was decided by the Court of Appeal only a month or so ago. It is the case of Ward *v* Taylor in *re* De Falbe, where Mr. Justice Byrne held that pieces of tapestry which had been affixed by the tenant for life of freehold estates to the walls of the drawing-room of the mansion house passed on her death as fixtures, with the estates, to the persons entitled in remainder. Upon the evidence Mr. Justice Byrne found that the tapestries were fixed on the walls in the following manner:—Small strips of wood were fixed on the walls (which in some parts were faced with wood) by means of nails and screws, and over these wooden strips canvas was stretched and nailed, and the tapestries were fastened to these strips and over this canvas by very small tacks which did not penetrate the wooden strips. After the tapestries were put up white and gold mouldings for the purpose were fixed round the strips of wood by thin wire nails and screws, some of which were long enough to penetrate the face of the wall. The judge held that the tapestries formed an essential feature of the general decoration of the room, and although the ceiling and frieze remained as before, the rest of the walls of the room were altered and redecorated to accord with the tapestries. The judge held, on the authority of D'Eyncourt *v.* Gregory (1866, L.R. 3 Eq. 382) and Norton *v.* Dashwood (1896, 2 Ch. 497), that the tapestries, having regard to their position, importance and the essential part they played in the decoration of the room, had been in effect annexed to the mansion house and passed with it to the remaindermen.

The residuary legatee under the will of the tenant for life appealed.

Lord Justice Rigby, in giving judgment, said that the representative of the tenant for life stood in the same position as the tenant for life herself with regard to the remaindermen. At one time anything whatever affixed to the freehold was held to go with the freehold, and it was only by slow degrees that that unbending rule had been modified. But in later times important exceptions from the rule had been established. One exception entitled a person who had put up fixtures for trade purposes to remove them. That exception was not confined to the case of landlord and tenant, but extended to the case of a tenant for life and remaindermen. Another very important and well-established exception existed in the case of articles affixed to the freehold, not for the purpose of enhancing its value, but for purposes of ornamentation. Such articles were removable by the person who had fixed them. This exception applied as between tenant for life and remaindermen, and it was of general application. The question here was whether these tapestries were affixed to the freehold so as to become part of the house or so as to be removable at the will and pleasure of the person who had affixed them during her lifetime, and by her executor after her death They were no doubt as firmly fixed as though the person who had put them up had intended them to remain there always, but that was not of much importance. In all cases where the article was affixed to the freehold simply for purposes of ornamentation the exception applied.

Having now considered the responsibilities of landlord and tenant under the common law and under the common forms of repairing covenant, it may be well before proceeding to the consideration of the actual survey to summarise the liabilities of lessors and lessees.

Briefly then, the lessor is not liable to repair or even to rebuild in case of fire, even if he has received the insurance money. There is no implied covenant that the house is fit for occupation, or that it will last during the term. Neither is the landlord liable to the tenant's customers or guests for accidents happening when he lets a house in a dangerous state, there being no law against letting tumble-down houses, and in the case of Manchester Bonded Warehouse Co. *v.* Carr (1880, 5 C. P. D. 507), where a building had fallen in consequence of a floor being overloaded with flour, and rent was claimed by the lessors during the time the building was unoccupied, the Court said distinctly that they were not prepared to extend to ordinary leases of lands, houses or warehouses any implied covenant or warranty, as in the cases of Smith *v.* Marrable and Wilson *v.* Finch-Hatton, as they would be bound to do if they were to hold the plaintiffs liable for the fall of the warehouse by reason of any implied covenant or warranty. Lessees must use premises in a tenantlike manner, must commit no waste, must pay rent though premises be burnt down, must keep premises wind and watertight; a tenant for years is liable for permissive waste. Under a covenant to keep premises in good and tenantable repair, the nature of which undertaking has been previously defined, the responsibility of the lessee is slight as regards actual structural repairs, but would appear to be considerable with regard to painting, papering, whitewashing and such decorative work, a responsibility which previous to the decision of Proudfoot *v.* Hart was looked upon as practically nil.

The lessee's responsibility under a repairing covenant to keep in substantial repair, &c, is much greater than that under a covenant for good tenantable repair; his liability extends to making good all dilapidations to the structure and decorations, and except such as are caused by the natural operation of time and the elements in diminishing the value, the practical effect of which is set out in the case quoted of Lister *v.* Lane; thus if the premises are old at the time of the demise he is bound only to execute such repairs as may be necessary to keep up the premises as old premises. It may be again mentioned that the courts now seem to construe the covenant on the part of the lessee to keep the premises in substantial repair in a less stringent way than formerly and pay more regard to the age and character of the premises than was formerly the case.

It may also be stated here that if the landlord neglects to do repairs which he is bound under a covenant to do, the tenant is not justified in leaving the premises, neither may he execute them and deduct the cost from the rent.

Having considered the obligations of landlord and tenant arising under the common law and under covenant, we proceed to the actual survey and preparation of the schedule and claim.

Before surveying the nature of the tenancy will doubtless have been carefully considered, and in many cases the legal position will have been discussed with the lawyer.

In making his survey the architect should bear in mind that there is a wide practical distinction between an interim schedule and a schedule prepared at the expiration of the tenancy. It is generally sufficient in the former case to prepare it, having particular regard only to such dilapidations, the non-repair of which will cause injury to the structure to the reversion; such matters as decoration and details which concern the personal comfort of the tenant may very well be omitted. If the schedule is being prepared at the expiration of a tenancy all matters for which the tenant is liable under the repairing covenant are, of course, included.

In the practice of preparing a schedule and claim the method varies very much, those prepared by architects generally going more into the detail necessary for the carrying out the work of reinstatement than those prepared by surveyors; in fact, an architect's schedule purports to be in some cases a complete specification. There is no necessity for this, it may rather prove a disadvantage, for very often it happens that all that is necessary to be done to make good some of the defects cannot be foreseen till the work is actually being executed, and it may be that what is described is inadequate, or not the best way to do what is requisite. On the other hand, it may specify a method of carrying out the repairs which is more elaborate and costly than the lessee can reasonably be expected to do. It may therefore be taken as a good general rule that while the defects cannot be noted in too great detail, the specifying of the method of remedying them is not only unnecessary but unadvisable.

Most architects follow their own system, but there is much in common in all the methods, and although the practice with regard to points of detail varies greatly, the following method of procedure will be found convenient:—

Before commencing to note the dilapidations, take a general survey so as to get to understand the arrangement or plan of the premises. One can also see generally whether the tenant has been careful or otherwise in his use of them, and preserved them by executing reasonable repairs at the proper time.

Having made this preliminary survey, commence with the exterior, the roof for preference, and keep the various parts of the building under separate heads, clearly defined so as to be easy to trace subsequently.

Examine the roof covering, noting such defects as missing or slipped tiles and slate; examine the slate nails, they may be in a worthless state owing to rust. If the roof is generally uneven or baggy it indicates that the laths are decayed, and a further examination possibly may prove the rafters to be decayed, and it may be so much so as to render it necessary for the roof to be stripped, firred up and relathed, retiled or reslated. Note any defective flashings and fillets against abutments, also any open joints indicating a want of pointing to the verges, ridges, hips or tiling generally.

While upon the roof any defects to the lead or zinc gutters or flats can be seen. It often happens in old houses that the fall of some portions of the gutters is defective; this may indicate a sagging of the bearers generally, attributable to decay, it may be as the result of leaks, and it will be necessary to take up and make good the woodwork and relay or renew the lead or zinc.

Next take the chimney-shafts, parapet walls, &c, that can be seen from the roof. These must be carefully looked to, particularly the chimney heads and pots, which are often out of the upright with many loose bricks and loose or missing pots. Also with regard to the open joints in the shafts which require pointing up, or the shaft itself itself may be so much out of the upright as to require rebuilding.

Parapet walls and copings should be examined for the same defects, viz. want of pointing, defective cramps or decayed bricks, or some parts badly out of the upright, or some of the brickwork quite loose and requiring resetting; in many cases parapet walls are rendered, any defect in the condition of this should of course be noted.

While upon the roof look carefully over skylights, trapdoors, &c; these matters have generally been neglected, being more or less out of sight.

Also any defects in the iron gutters should be taken while upon the roofs; they are often full of dirt, and the insides may not have been painted for many years, and consequently have rusted almost through, and the cistern heads may be choked up.

Lastly, before leaving the roof take note of any painting.

Next proceed with the elevations. It is a good plan to have a system in dealing with them, say commencing with the front elevation and working round from east to west Examine the condition of the brickwork for want of pointing generally, or round door or window frames, soft bricks if the walls and gables are bulging or cracked, if bulging or cracked bearing in mind what has been said as to inherent defects; look to the arches for cracks and loose and dropping bricks, also the condition of the sills, string-courses and other ornamental features; if there is any rough-cast or cement work it should be carefully examined to see that it has not left the laths or walls; the stone steps, landings, &c, should be looked to and any defects noted, the condition of the woodwork examined, wood sills to windows being very liable to decay, and the condition of the rain-water piping, shutters, glazing and the painting generally.

Having completed the elevations, look over the pavings, fences, also drains, &c. It is well to give the approximate quantity of paving that requires relaying, also details of the fencing. With regard to drains and sanitary fittings, it often happens that the drains if tested would be found to leak badly, also the soil and vent-pipes at the joints. It would not be reasonable in the case of old houses to expect the drains to stand the water test, but it is often found that drains are partly choked up; leaky joints in a soil-pipe would certainly generally be covered by the repairing covenant and would be scheduled.

Having completed the exterior, proceed with the interior, taking it floor by floor (commencing at the top) with the passages last, then the staircases and landings to the floor below; it is well to have plan of the rooms in mind and to select a convenient point for commencing, and then to follow through naturally the various apartments, taking care to identify the rooms so that anyone can follow them. Of course the method of procedure would vary with the size of the house; it is convenient in the case of a very large house to subdivide each floor into wings or the other natural divisions that the arrangement presents. Having settled the general lines of procedure, take room by room carefully noting all defects to the structure first, then to the flooring, doors, architraves, skirtings, window sashes, frames or finishings, door and window furniture. Examine the fitting of all doors and windows and if they open easily and properly, the chimneypiece, hearth and grate; it may be necessary to clean the chimneypiece if there is no actual defect, the firebrick may be burnt out in the case of the grate and the hearth broken, particularly in the case of an old house. In the case of repairs to flooring, distinctly mark the extent of the repairs called for unless they can be so explicitly stated as to be easily followed.

Having taken all defects existing to the structure, fittings, fixtures and finishings, proceed with the distempering and papering, making a note also of any baggy places in the ceilings indicating rotten laths or any defects to the wall plaster. In the case of distempering, papering and painting, it is well to include the necessary preparation previous to the execution of the works; by a general clause it saves much repetition and is a great convenience. Of course, in dealing with decorative work such as distempering, papering and painting, the nature of the work differs very greatly, not only such natural differences as one would expect to find in the different classes of houses but in the actual decorations of similar class houses, and where the lease is silent as to the character of the decorations the architect has to rely solely upon his judgment.

Having dealt with every part of the house, there generally follow some general clauses, as sweeping the flues, blacking grates and ranges, oiling and repairing locks and window fastenings, overhauling water fittings, cleaning out cisterns, sweeping away rubbish and cleaning floors and windows.

It is a great convenience in going over the house again to see that the dilapidations have been properly made good, or in any future negotiations that may take place to have the book in which the dilapidations are entered carefully indexed and the headings of the rooms, &c, carefully and distinctly written. This is particularly so should the case ever come up for settlement in court and the architect has to give evidence.

The order given would be followed in dealing with stabling, outbuildings, &c, so far as they apply, taking each separately.

In preparing a schedule and an estimate of the cost of reinstatement it is better to take the necessary measurements and particulars for the purpose of the estimate after having noted the dilapidations for the purpose of the schedule; it does not follow by this that another survey is needed, it may all be done at the one visit. Where two surveyors are appointed to settle a sum in lieu of carrying out the works, it is convenient to try and agree as to the repairs for which the lessee is liable before discussing the question of the damages. It should be remembered that the lessor can claim compensation for loss of rent for such a period as is reasonably necessary to enable the repairs to be carried out.

When advising tenants prior to entering into a lease, in the case of the lessee covenanting to keep and leave the premises in repair the same as at the commencement of the term, it is necessary to prepare a schedule very carefully so as accurately to show in detail the condition of the premises at the time, and the lessor should admit its accuracy before the lessee signs the lease

There are many other points in connection with the survey and claims that might be touched upon did time permit, but I feel I have trespassed too long already upon your patience, particularly as I fear that much of what I have written is of an elementary and certainly very fragmentary character and extremely dry, but if it is found of some little use in focussing the main principles as laid down in some of the leading cases, and as gleaned from actual practice, it is the most I can hope for, and I shall feel that the object which I had in view has been attained.

ANCIENT PORTRAITS.

IN the third and last of his lectures on "Greek and Roman Portrait Sculpture," delivered at the Royal Institution, on Thursday, Professor Percy Gardner discussed Roman portraits. He began by showing a series of early Roman heads, the first being a portrait of Marcellinus found at Carthage. This was very characteristic, though more comely than the average, and was strangely ecclesiastical in type. Force of purpose and will were well marked features of the Romans, and he knew nothing in the whole range of sculpture that conveyed the idea of force more strongly than the seated figure of the Capitol called Marcellus. We had many portraits of Roman Republican times, but few were named or could be identified. A specially interesting head of the Consular age was that of Flamininus at Berlin; he was a great lover and admirer of the Greeks, and in it he appeared as a Greek. The next head was in marked contrast; it was sometimes thought to be a portrait of the elder Scipio, but it was difficult to believe so morose and vulgar a face could belong to that chivalrous aristocrat. A more trustworthy memorial of the Scipios was to be seen in a laurel-wreathed head which was found in the tomb of the Scipios, and probably represented Ennius. A well-known example of the art of the beginning of the Christian era was the Germanicus of the Louvre, which, however, did not represent Germanicus at all. Coming next to the Empire, the lecturer first showed a marvellous head of Julius Cæsar from the British Museum, and this was followed by another from the same place which might be of Cleopatra, since it closely resembled the head on coins that were undoubtedly hers. It was a coarse and vulgar face of a Jewish type, and if it did really represent her it was merely another proof that not by beauty alone had notable women turned the world upside down. The next portrait was the Agrippa in the Louvre, and it was followed by a colossal head of an empress as Juno or Ceres, the seated Agrippina of Naples, and a head of Seneca. Art in the Flavian age was represented by portraits of Marciana and Antinous, the latter being a type of beauty that greatly influenced the art of the second century A.D., in the same way as the personality of Alexander did that of the fourth B.C. The last Roman picture to be shown was of Commodus in a lion's skin—a work whose finish and preciosity rendered it a tour-de-force; it was, however, the latest that deserved to be called a work of art, for it was on the edge of the long decline that sloped down to the Middle Ages.

THE BIRMINGHAM UNIVERSITY BUILDINGS.

THE following correspondence has passed between the secretaries of the Birmingham Architectural Association and the authorities of the University of Birmingham respecting the preparation of plans for the new University buildings. On January 26 Messrs. A. E. McKewan and G H V. Cale wrote to Mr. Morley as follows:—"In the report of the general meeting of the Council of the University, which appeared in the *Daily Post* of the 10th inst., Messrs. Webb & Bell were stated to have been instructed to prepare a block plan of the new University buildings. The Council of the Birmingham Architectural Association would esteem it a favour if you would kindly inform them whether such block plan is being prepared with a view to competition or as a preliminary to Messrs. Webb & Bell being appointed architects for the new buildings. The Council would be obliged by an early reply." Mr. G. H. Morley replied two days later in the following terms:—"I beg leave to acknowledge the receipt of your letter of Saturday's date, and to say in reply that Messrs. Aston Webb & E. Ingress Bell have been instructed to prepare sketch plans of the proposed University buildings, but the matter has not at present gone further than that. I have not heard any suggestions of a competition."

On February 14 the hon. secretaries of the Architectural Association wrote further as follows:—"Dear Sir,—With further reference to your letter of the 28th ult., which has been laid before the Council of the Association, we are instructed to request that, having regard to the local interest and great importance of the new University to the Midlands, a competition amongst architects be arranged for the proposed new buildings on the lines of that conducted for the Victoria Law Courts, in which the sketch plans drawn up by Mr. Waterhouse were supplied to competitors, and that the sketch plans, which we understand are being prepared by Messrs. Webb & Bell, should similarly form the basis of such competition. We are sending a copy of this letter to Messrs. Webb & Bell, and we propose to publish this correspondence in the local press upon the receipt of your reply."

This communication was acknowledged by Mr. Morley, and laid by him before the Council of the University on March 6. He afterwards wrote to Messrs McKewan and Cale as follows:—"I beg leave to inform you that your letter of the 14th inst. was laid before the Council of the University at its meeting yesterday, when I was directed to thank the Council of the Birmingham Architectural Association for their communication, and to inform them that in the opinion of the University Council the principle of selecting designs by competition could not be advantageously adopted in the case of the University."

The following protest was thereupon forwarded:—

"Birmingham Architectural Association:
"March 12, 1901.

"Dear Sir,—We beg to thank you for your letter of the 7th inst, and regret to learn from it that the Council of the University do not see their way to adopt our suggestion of holding a competition for the University buildings, with Messrs. Webb & Bell as assessors. The principle of selecting plans for University buildings by competition has been successfully adopted in the vast scheme of the Californian University, and therefore, we believe, would prove equally successful in Birmingham. The University is situated in Birmingham, has been subscribed to by Birmingham citizens, and will become intimately associated with the intellectual and commercial advancement of Birmingham, and under these circumstances we feel bound, as representing Birmingham architects, to protest in the strongest manner against their having been excluded from any participation.—Yours truly, A. E. McKewan, G. H. V. Cale, hon. secretaries."

The following suggestion has been offered by Mr. T. W. F. Newton :—The whole city has been canvassed for subscriptions, and a large number of architects have subscribed to the endowment fund of the University, yet immediately the University has any need of the services of an architect it goes out of the city to find one ; in fact, it would appear that the governors of the University have indirectly suggested to the outside world that there is no architect in Birmingham who is competent to do their work.

Is the Law Courts the only building in Birmingham of any repute? For years Messrs. Cossins, Peacock & Bewlay have done all the work at Mason College. Surely if the governors of the University did not wish a competition, common courtesy almost required that they should ask these architects for sketch plans. Apart from this a local firm could clearly give more attention to the work, and it is common knowledge that Messrs. Aston Webb & Ingress Bell have a very large amount of work at the present time, and therefore could not be expected to give sufficient attention to this work for the University.

Some years ago just after Messrs. Webb & Bell had completed the Law Courts, the Corporation were about to issue invitations for competitive drawings for the new police offices, making the corner adjoining the courts. At the Architectural Association a resolution was carried that Birmingham architects should not compete.

Messrs. Webb & Bell were then very grateful to the Birmingham architects for not opposing them. They now had an opportunity of returning the compliment. They have, however, seen fit to act in what we consider a distinctly unprofessional manner, and the only acknowledgment the Birmingham Architectural Association has received to their protest is a formal one Comment is needless

If the commencement of the University scheme is a fair augury of what is to come, the various professions and trades in the district must expect the University to go outside the city for everything it requires.

Looking at the suggestion that Birmingham architects as a whole are so incompetent, it is perhaps intended to include a faculty for architecture in the curriculum of the new University, and so in the future it may not be necessary to go to London to find competent architects,

NORTHERN ARCHITECTURAL ASSOCIATION.

AT the annual meeting of the Association, held at 36 Northumberland Street, Newcastle, on the 13th inst., Mr. Glover, in severing his connection as chairman, said :—

I appreciate the honour conferred upon me by the vice-president and members of the Council in asking me to occupy the chair for another year, but I think it is better to adhere to the rule that has hitherto prevailed that a president shall not hold office for more than two consecutive years. I also feel that if I consent I would prevent a younger and more able man being elected to the office. I much regret that my state of health has not enabled me to attend the evening meetings as I would have wished. It has been very gratifying to me to learn that during the last two years the students have done their best work, many of their drawings being of a high-class character. I have no doubt much of this is due to the advice given by Sir Benjamin Chapman Browne at our last annual meeting, viz :—"Probably no art has such a power of making the highest and noblest feelings felt. If a man did not love his work, his life was not happy—work was its own reward. A man who loved his work was happy. Let their work be not only a pleasure but a hobby." It is also gratifying to me to hear from the honorary librarian that the high-class works have been in great demand by the students. It should be one of our main objects to stimulate the students in their work, and to endeavour to make them better men than we are when they occupy our places. It will give me very much pleasure at the opening of the winter session of 1901 to add an extra prize to all the students who gain the Institution prizes, also to the students to whom the assessors give "honourable mention." I will also have pleasure in continuing to supply *The Architect* weekly for this year, to be the property of the Institute. Before closing, I wish to thank my friend, the honorary secretary, for his kind assistance during the period I have been your President. Few of you know how hard he works and the interest he has taken in promoting the progress and welfare of the institution.

Mr. Frank Caws, of Sunderland, was chosen to take Mr. Glover's place. After election he spoke in very high terms of praise of Mr Glover. In thanking the members for the honour done him and his town, he said it would be difficult to follow Mr. Glover in the chair, because he had been an ideal President, but he would do the best he could in the position to help the objects of the Association. They all trusted Mr. Glover would have health and a long life.

References were later made by others to what a deal Mr. Glover had done for the Association, and there was some talk of having a bust of that gentleman placed in the rooms.

The annual report, presented by Mr. Arthur B. Plummer, showed that during its forty-second session the Association had become increasingly successful. During the year 1 member, 5 associates and 12 students had joined, making the roll stand at—54 members, 71 associates and 61 students, or 186 in all. The paper proceeded to detail all the visits made to places in and out of Newcastle during the year, and the buildings, &c., inspected. Reference was also made of the promise of 500*l.* made by Mr. Glover towards obtaining a building for the Association if an equal sum could also be raised, and to the good progress made with regard to securing other money gifts.

The exhaustive report was accepted.

The statement of the hon. treasurer, Mr. J. T. Cackett, showed a balance in hand of 89*l.*, or a gain of about 35*l.* on the year.

This, too, was agreed to.

An election of officers, &c., followed, and resulted as under :—Vice-president, J. W. Taylor; hon. secretary, A. B. Plummer; hon. treasurer, J. T. Cackett; hon. librarian, H. C. Charleswood. Council: R. B. Dick, J. W. Donald, R. J. Leeson, J. Oswald, T. Reay—members ; J. W. Boyd and R. P. S. Twizell—associates. Mr. W. Glover, ex-president, ex-officio member of Council ; J. H. Morton, hon. local secretary for South Shields ; G. T. Brown, hon. secretary for Sunderland.

EDINBURGH ARCHITECTURAL ASSOCIATION.

AT last week's meeting of the above Society Mr. J. M. Brydon, F.R.I.B.A., gave an interesting address in the Royal Institution on "The Work of Professor Cockerell, R.A." There was a good attendance of members, presided over by Mr. Henry F. Kerr. In the course of an appreciation of Cockerell's great work as architect and student of sculpture, Mr. Brydon spoke of the architectural environment of his time. Then the battle of the styles was in full swing, and there was found in Cockerell a great artist and scholar, who combined the adaptability of the Italian with the refinement of the Greek, while all through his work there ran the impress of the individuality of the man himself. In the design of the National Monument on Calton Hill, Mr. Brydon afforded evidence of Cockerell's participation. He admitted that his connection with the work came as a surprise to him, as doubtless it would be to some of his audience. Cockerell's original sketches and drawings (which were exhibited to the meeting) were the first idea of the monument, which was to be a reproduction of the Parthenon. The foundation-stone was laid in 1822, and Cockerell's sketches enabled one to see the mode by which the interior of the monument was intended to be lighted. The method seemed to forestall the clerestory theory of the lighting of Greek temples. There were also shown the working drawings by Playfair of the portion erected in 1826. Between the preparation of Cockerell's sketches and the laying of the foundation-stone of the actual commencement of the work from Playfair's drawings, said Mr. Brydon, there was an interval of some years, and one could only conjecture that something had occurred which caused the transference of the work from one architect to the other, or that the two architects went in conjunction under some arrangement, the traces of which were now lost. The two must have been congenial spirits, alike in their knowledge and devotion to the study of Greek art. Vaulting ambition again, however, overleaped itself. The monument was never completed, and to-day it looked more like the ghost of the Parthenon that was. Nevertheless, the spirit of the Greek temple was in the fragment on the Calton Hill. Its exquisite proportion, its beauty of detail, showed the artist's true spirit. Fortunately also were they in the magnificent stone of which the fragment is built, being as sharp as on the day when it was put up. The site plan curiously was not among the Cockerell collection. Whether that was sent to Playfair or not he could not say. There was no doubt the intention was to represent the Parthenon. In the elaborate account of the laying of the foundation-stone there was curiously not a word said about the architect. It had always been his impression that they certainly began the building with the idea that they were going to make a reproduction of the Parthenon, and that they went on until the money stopped. Playfair's drawing was the contract drawing for exactly the piece that was built and nothing more. In the discussion following upon the paper, Mr. Hippolyte Blanc said the information about the monument was certainly new to him. The question of the completion of the monument had been recently opened up as a suggested memorial to the late Queen, but he could not but feel that with the evidence of the intention to build only a certain part of the structure there was a sacred thought in the minds of those who had schemed the monument that it should never be other than the suggestion of a ruin. On the motion of Professor Baldwin Brown, Mr. Brydon received a hearty vote of thanks.

TESSERÆ.

Greek and Egyptian Pottery.

ALL nations with any turn for art have speedily discovered what capabilities for producing beautiful form lie in the making of an earthen pot of the commonest kind, and what opportunities it offers for the reception of swift and unlaborious but rich ornament, and how nothing hinders that ornament from taking the form of representation of history and legend. In favour of this art the Classical nations relaxed the artistic severity that insisted otherwhere on perfection of figure drawing in architectural work, and we may partly guess what an astonishing number there must have been of capable and ready draughtsmen in the good times of Greek art from the great mass of first-rate painting on pottery, garnered from the tombs mostly, and still preserved in our museums after all these centuries of violence and neglect. Side by side with the scientific and accomplished work of the Greeks, and begun much earlier than the earliest of it, was being practised another form of the art in Egypt and the Euphrates valley; it was less perfect in the highest qualities of design, but was more elaborate in technique, which elaboration no doubt was forced into existence by a craving for variety and depth of colour and richness of decoration which did not press heavily on the peoples of the Classical civilisation, who, masters of form as they were, troubled themselves but little about the refinements of colour. This art has another interest for us in the fact that from it sprang up all the school of pottery which has flourished in the East, apart from the special and peculiar work of China.

Commerce and Art.

Mercantile habits are far from being inconsistent with the enduring and elevated spirit which produces the grand and the beautiful in the fine arts; witness the matchless glories of the Acropolis, the imposing streets of Genoa, the marble palaces of Venice, the perfection of architecture at Florence, the venerable piles of Ghent. On the contrary, when rightly directed, they are the best foundation for excellence in these departments, because they provide the wealth necessary for their construction, and at the same time induce that liberality of mind and custom of large expenditure on great objects which are essential to success in all the higher walks of human genius. Democratic societies are occasionally capable of rearing the most admirable monuments, but in all such cases it will be found that though in form a republic, the supreme power has in reality been lodged in a single individual or a few persons, whose talents, eloquence or popular arts have given them undisputed authority. The Republic of Athens erected the matchless peristyle of the Parthenon, the imposing gateway of the Propylæum; but it was at a period when the talents of Pericles had given him for a long course of years an unresisted authority, and when the influence of Athens was able to turn to the embellishment of their city the common treasures of Greece at Delphi. Mercantile wealth has often, as in Tyre, Carthage and the modern Italian or Flemish cities, been the parent of architectural splendour, but in all such cases it was a proud and high-minded aristocracy who were the real rulers of the State and practically entrusted with the direction of affairs.

The Cathedral, Ulm.

The Ulm Minster covers an area of 58,000 square feet, and is not surpassed by any Mediæval cathedral, Cologne and Speyer excepted. Its naves, complete as they are, are of gigantic proportions, the principal one being 141 feet in height, and the four lateral ones 70½ feet, the choir 90 feet. The spire, had it been completed according to the plans of the original architect, Mathew Boblinger, would have overlooked even that of Cologne, as it was planned at a height of 475 feet (Rhenish), while the latter was to be 474 feet. The spires of Freyburg, St. Stephen at Vienna, and even Strasburg are all of a lesser height. Thus what is related by tradition may well be true, namely, that the Ulm burghers, at whose expense this edifice was raised, said then that they wanted to erect a case for the Strasburg Minster. This gigantic building was begun in 1377, the names of the architects being Heinrich and Michel (most probably only their Christian names). When Mathias Boblinger took charge of it, from 1480 to about 1490, the building had proceeded as far as the platform. A subsidence of this stupendous mass was subsequently apprehended, and Boblinger was compelled to fly from Ulm, Bunkhard and Engelberger de Hornberg being then appointed architects. They underran the spire with such tremendous walls that professional men say any height can be raised thereon. The building was not subsequently proceeded with, if we except those graceful columns erected by Lienhart Aeltlin (1502-07), by which the lateral naves are divided. Want of funds, and still more, the approach of the Reformation, prevented any further endeavour to complete it. Thus it remained until 1844, when the tendency to restore the Mediæval monuments of Germany —already manifested in that of the dome of Cologne—reached also the inhabitants of Ulm.

Fine Arts and Mechanic Arts.

The progress of the fine arts and of the mechanic arts is not necessarily correspondent, and we may find a people producing the most beautiful sculpture and painting who want common comforts, or another whose painting is barbarous, but whose domestic arts are well cultivated, as, for instance, in the case of the Chinese. While the Athenians made a great stride in sculpture between the time of the Ægina marbles and of Phidias, it may be taken for granted that the progress of the useful arts was not so great. The invention of a new machine would have been needful to effect any great change. While we look to the cultivation of the fine arts as having an equivalent effect on the manners of the people and in the advancement of artistic manufactures, it is evidently unequal to the production of mechanic skill, and we must be careful not to rely too much upon artistic instruction nor to push it too far. The existence in a country of a general and refined taste is not inconsistent with the promotion of mechanical pursuits, and is favourable to them, but we must not try to give an artistic bias in education. At present our people get a good mechanical training, which makes them the best workmen in the world, and in trying to do more we must not lose this. One reason why the flourishing state of the fine arts is no index of the state of the mechanical arts is that the former are chiefly handmaids to wealth, and are employed either by a rich state or by a few rich men, and are little enjoyed by the people individually. While the Athenians were raising the Parthenon and pouring out upon it all the riches of art, they themselves were living in wretched huts, which had no share in the largess. While the head men of Rome were filling their palaces with the greatest works of old and new art, the people were as ill-lodged as when Romulus and Remus began the town. The mechanical arts cannot, however, be pursued without all getting a share in their works. Sawed timber and wrought-iron were luxuries among the ancients; when towns were taken by the Greeks the planks and beams, the hinges and the nails, were carried off as the worthiest part of the plunder, but as the stock got bigger all classes were able to get a share. The husbandman willingly gave food for a plough, an axe, a bolt, a kettle or a pan; but he would unwillingly have given food for a carving or a painting, from which he could have got nothing back. The fine arts became the servants of the rich, the mechanical arts the servants of the poor.

Tanagra Figurines.

The beautiful figures of terra-cotta which of late years have reached us in such quantities from Asia and Greece, especially Tanagra, are connected with Greek burials in a very remarkable way. They are frequently found in connection with tombs. But they are not placed in the graves in an orderly or regular fashion. At Tanagra and Myrina and other sites they are seldom found entire, but almost always broken in a purposeful manner, the head usually torn off and lying apart. And they are as often to be met with in the earth over and beside a grave as in the grave itself. MM. Pottier and Reinach express their conviction, based upon a long induction, that the friends of the deceased must have stood beside the grave, as it was being filled with earth, with these pretty images in their hands and thrown them, first breaking them, into the hole How can so strange a custom be explained? M. Rayet has proposed a remarkable theory on the subject. In early times, he remarks, men slew at the graves of departed chiefs their female kin or captive women, to accompany them to the next world. It seems, then, likely that these terra-cotta women of the graves are the later representatives of these real women, just as terra-cotta loaves of bread and fruits take the place of real food, and that they were thrown into the tomb to people the solitude of the grave and to furnish the dead man with pleasing companionship in the world of shades. This theory would account for two things—first, for the fact that there are scarcely any representations of bearded men among terra-cotta images; they are nearly all of women and of boys; and secondly, for the custom of breaking the images, the breaking taking the place of the earlier slaying.

Chained Books in Libraries.

The habit of chaining books in churches for the general use of the people was not an invention of the time of the Reformation, but existed long before that epoch. There are a few chained libraries still remaining in England. The largest of these is at the cathedral church of Hereford, and is the one genuine survival of an old monastic library. It consists of about 2,000 volumes, of which about 1,500 are chained. There are five complete bookcases and the remains of two others. Each chain is from 3 to 4 feet long, according to its position, so that every volume can be placed on the reading desk. In the centre of the chains are swivels which are useful in preventing their entanglement The following is a list of the most prominent places that have books now in chains, or have recently lost them:—Abingdon, Appleby, Arreton, Barber-Surgeons' Hall, Barcheston, Bingley, Bolton-in-the-Moor, Borden, Bowness-in-Windermere, Bray, Breadsall, Bridlington, Bristol, Bromsgrove, Canterbury, Cartmell, Cheddar, Chelsea, Chesterton, Chew Magna, Chirbury, Cirencester, Cumnor, Derby, Dinchworth, Durnford, Easton-in-Gordano, East Winch, Ecclesfield, Frampton Cotterell, Gorton, Grantham, Great Durnford, Grinton, Halesowen, Hanmer, Hereford, Hull, Impington, Kettering, Kidderminster, King's Lynn, Kinver, Lessingham, Leyland, Lincoln, Llanbadarn, some London churches, Luton, Malvern, Mancetter, Manchester, Margate, Minster-in-Thanet, Montgomery Castle, Newport Pagnell, Northwold, Prestwich, Quatt, Rochester, Salford, Salisbury, Sherborne St. John, Shirely, Sittingbourne, Southampton, Standon, Stratford-on-Avon, Suckley, Tavistock, Turton, Walmsley, Wantage, Wells, Whissonsett, Whitchurch, Wiggenhall, Wigtoft, Wimborne, Windsor, Wisbeach, Wolverley, Wootton Wawen, Worcester, Wrington and York.

Gold in Roman Arts.

There are no indications of the ancients having attained the art of drawing wire of gold and silver so as to apply it, like the moderns, to the fabrication of gold and silver lace, though it has been thought they had some means of using it for the purposes of embroidering. This is inferred from a passage in Propertius, where he speaks of interweaving gold ("aurum intexere"), and where he calls the garments made with it "vestes Attalicæ," from Attalicus, or Attalus, who has been supposed to have invented them. As the luxuries of the East were introduced into Rome the practice of using gold for some ornaments and for domestic purposes accompanied or followed them. Thus the "lectica," or chair, which was brought from Asia, and was composed, according to Curtius, of solid gold, was imitated in Rome in wood; but, as Athenæus says, had feet of gold. These lecticæ, or sedan-chairs, became at length so common that Cæsar prohibited the use of them except to persons of a certain age or rank, and on certain days. The bits of the horse's bridles and the collars on their necks were of gold, and the covering for their backs ("strata") were adorned with gold and purple. Their carriages were ornamented with decorations of precious stones, as well as of gold and silver. The art of enamelling, though it was known in the time of Pliny, seems to have made but little progress. The operation is described by that writer in the following words:—"The ancients contrived to paint silver, that in drinking they might be more devout from seeing their deities painted in their cups. This fashion is become so prevalent that even the statues which are carried in the triumphs are scarcely valued unless they are enamelled and painted black, and it is really surprising to think how much more valuable they are considered when the natural brilliancy of the metal is hidden and extinguished by such painting". From the description given by our author of the mode of preparing the enamel it seems clear that no other colour but black was adopted, and that it was used only for ornamenting drinking vessels, statues, vases, urns and other large articles of furniture. At the present day one of the greatest causes of the consumption of gold is the use of it in the smaller personal ornaments and in a variety of trinkets whose basis is gold, but whose chief value is the enamelling, which is wrought by skilful artists upon it. These, when the fashion changes or the work of the artist becomes obliterated, the gold being in very minute portions, are lost or destroyed, or at least the same care is not taken to preserve such fragments as is applied to the larger pieces of ornamental furniture. In the present day it is supposed, both in England and in France, that the quantity of the precious metals applied to these minor purposes by far exceeds that which is converted into larger objects, and that the loss in them is increased in some degree in proportion to the small size of the articles.

GENERAL.

The King has been pleased to approve the appointment of Mr. George C. V. Holmes to be chairman of the Board of Works, Ireland, in the place of Mr. T. Robertson, whose temporary appointment will expire on the 31st inst.

Mr. Joseph Goddard, J.P., F.R.I.B.A., of Leicester, who died on October 10 last, leaving property valued at 62,659*l.* 17*s.* 8*d*, bequeathed 100*l.* to the infirmary, 100*l.* to the Church Extension Society, 100*l.* to the building fund of St. James's Church, and 50*l.* to the building fund of the new church at Newfound Pool, all of Leicester.

The Vice-Chancellor of Cambridge University has been authorised to accept tenders amounting to 22,573*l.* for the erection of the new buildings for the department of botany.

A Wealthy Native Gentleman of Calcutta has left 25,000*l.* to the Calcutta University to found a scholarship to enable Indian youths to go to Europe to learn the practical arts and sciences of the West.

The First Commissioner of Works has stated, in reply to questions put in Parliament, that the transfer of the Pyx Chapel was made by leave of the President of the Board of Trade, with the approval of the First Lord of the Treasury. The object is to place the chapel in charge of the authority who has already the care of the chapter-house adjoining, and whose function it is to maintain buildings of national interest. The chapel will not be submitted to any process of restoration.

The Council of the Hampstead Hospital has, through the influence of Sir Henry Harben, secured a site at Hampstead Green for the proposed new hospital. Mr. Keith D. Young has been appointed architect of the new building, which is to contain fifty beds and to cost 20,000*l.*

Mr. Watson Armstrong, of Craigside, Rothbury, nephew of the late Lord Armstrong, has given 100,000*l.* to the Newcastle-on-Tyne new infirmary, and has left it to the discretion of the governors of the institution as to whether the gift shall be used towards the building fund or as an endowment.

A General Meeting of the Royal Irish Academy was held in Dublin for the purpose of receiving the annual report and electing the president and officers for the coming year. During the meeting several members raised the subject of the Celtic gold ornaments, which are now, it is contended, in the illegal possession of the Trustees of the British Museum, and it was suggested that the council of the Academy should make a report to the members on the present position of the affair.

A Memorial to the late Queen is to be placed in Hereford Cathedral which will take the form of a new west window and stained glass. The necessary funds are being provided by the ladies of the county. The Dean and Chapter have appointed Mr. J. Oldrid Scott, their architect, to carry out the work, and it is hoped that this may prove the first step towards the complete reconstruction of Wyatt's west front.

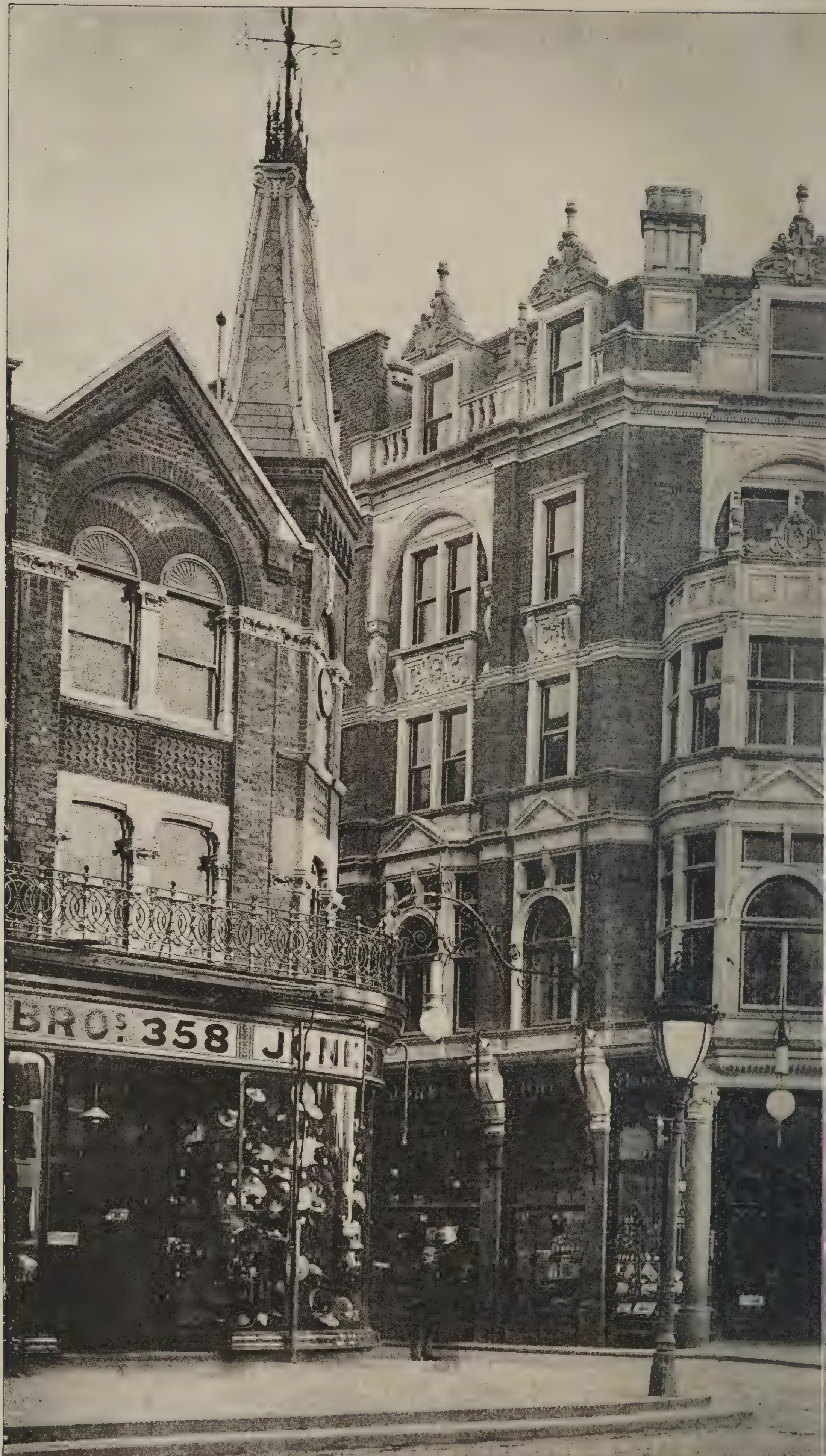
M. Edouard Detaille has presented to the Carnavalet Museum, Paris, his picture "La Porte Maillot en Novembre 1870."

It has been Announced that the proposed widening of Piccadilly, which is to be carried out by the County Council, will be commenced in the summer.

Mr. Balfour, M.P., was asked, in the House of Commons, whether in view of the fact that large sums of money had been granted by Parliament to buy pictures for the English National Gallery, while no money had ever yet been similarly granted to buy pictures for the Irish National Gallery, he would take the necessary steps to secure the Jan Vermeer now being exhibited by Messrs. Forbes & Paterson in New Bond Street for the Irish National Gallery. In reply, Mr. Balfour said he did not think it would be desirable to alter the present system of contribution to the Irish National Gallery.

Madame Lancelot-Croce has been named a chevalier of the Legion of Honour. She is the first lady sculptor to receive the red ribbon, the only two other artists sharing the privilege being Rosa Bonheur and Demont-Breton. Madame Lancelot-Croce, although a Frenchwoman, is sculptor to the Italian Court.

The Remains of a Roman temple in a walled square, measuring 60 feet by 50, have been found at Naundorf, in Rhenish Prussia. Numerous objects, especially of terra-cotta, have been dug up.



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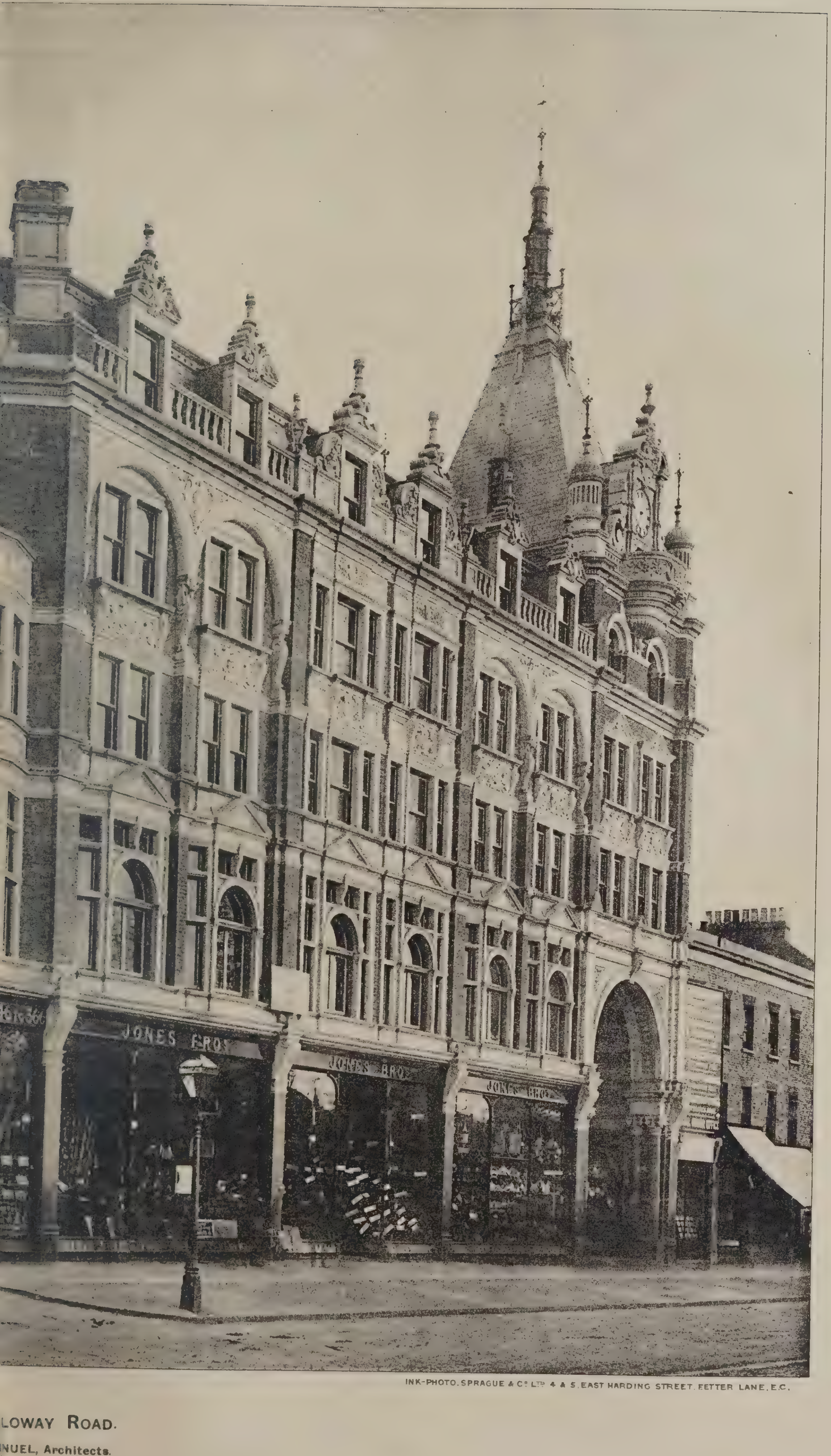

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LOWAY ROAD.

NUEL, Architects.

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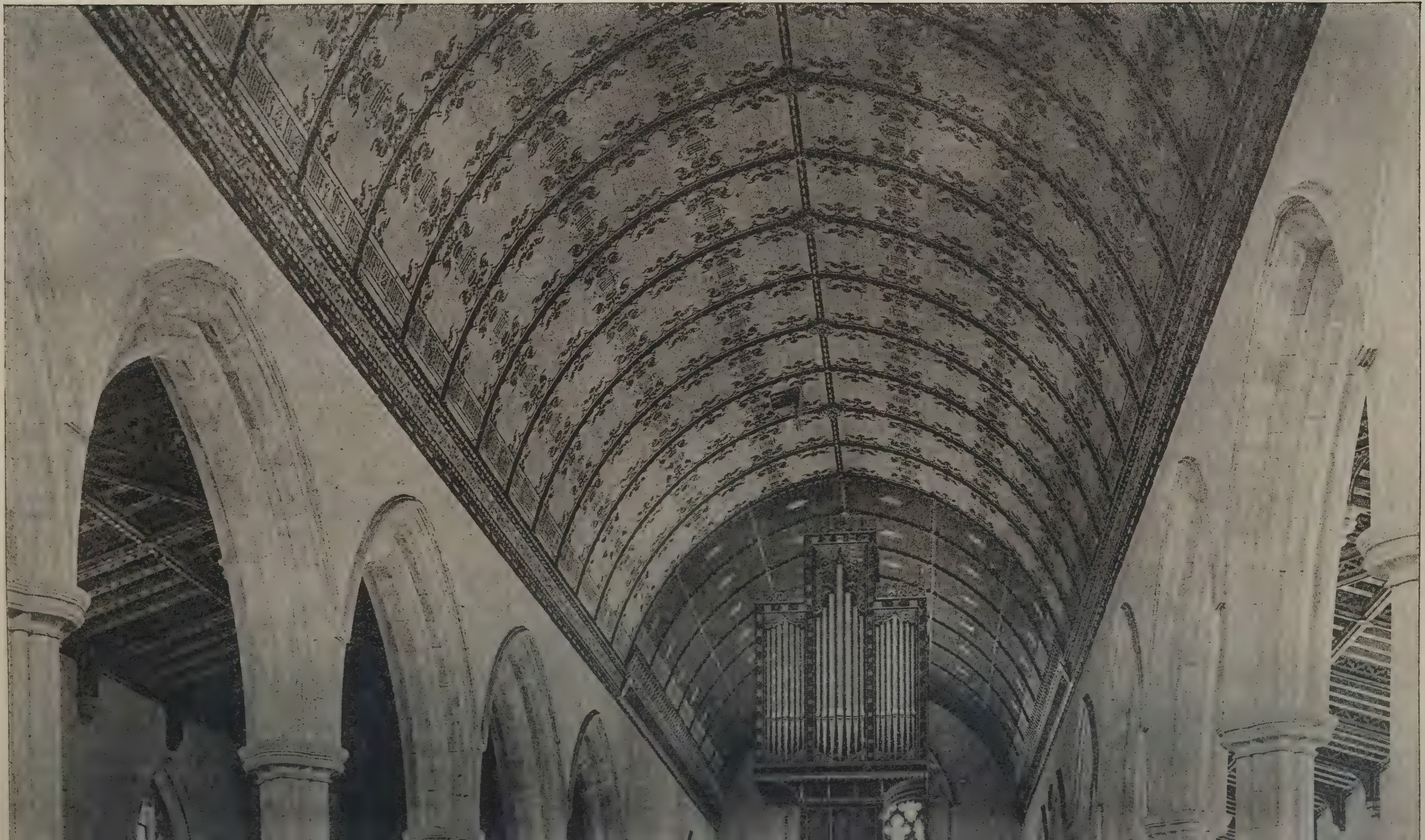

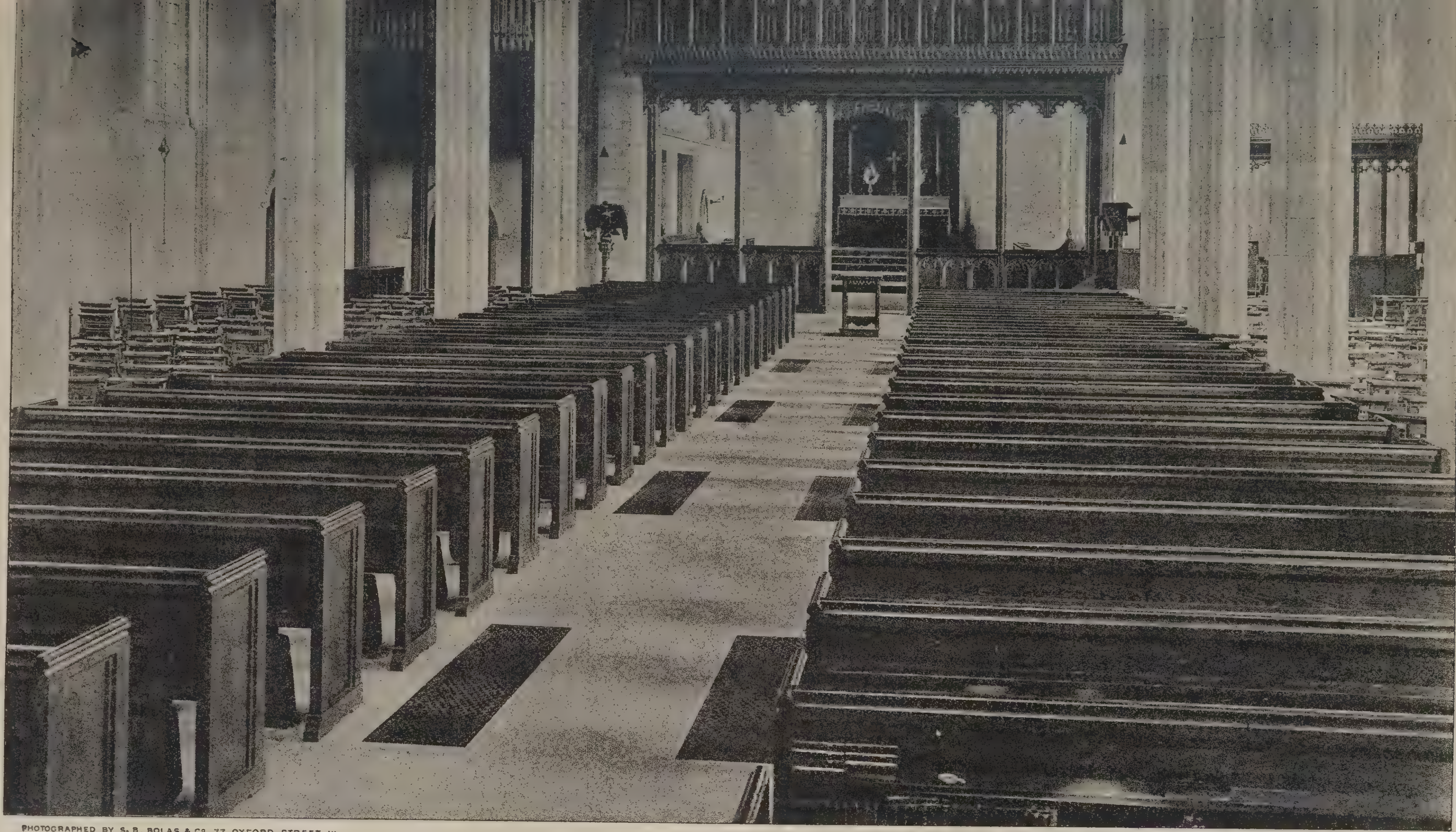

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S. MATTHEW'S, CHAPEL ALLERTON, NEAR LEEDS: THE NAVE.

G. F. BODLEY, A.R.A., Architect.

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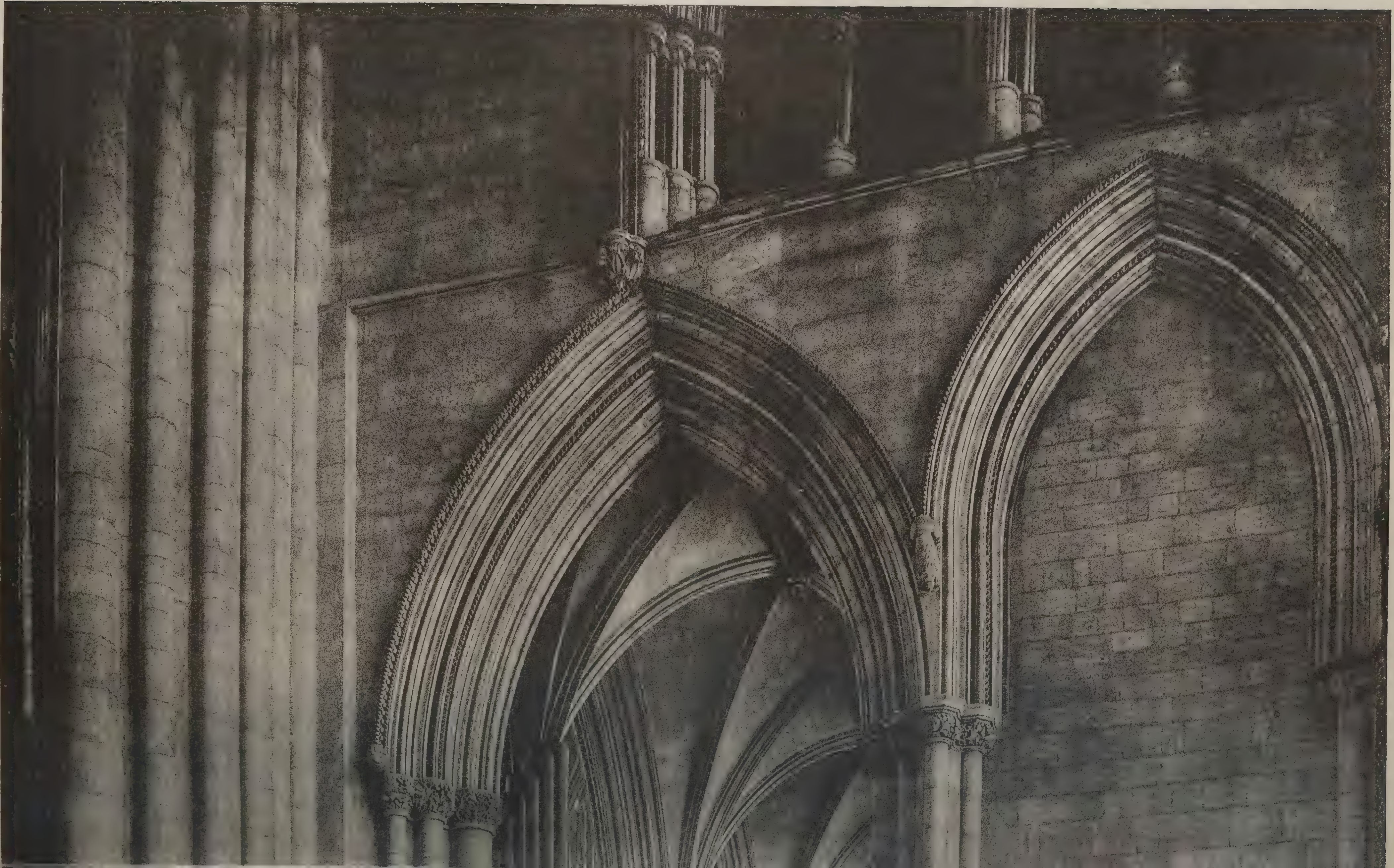

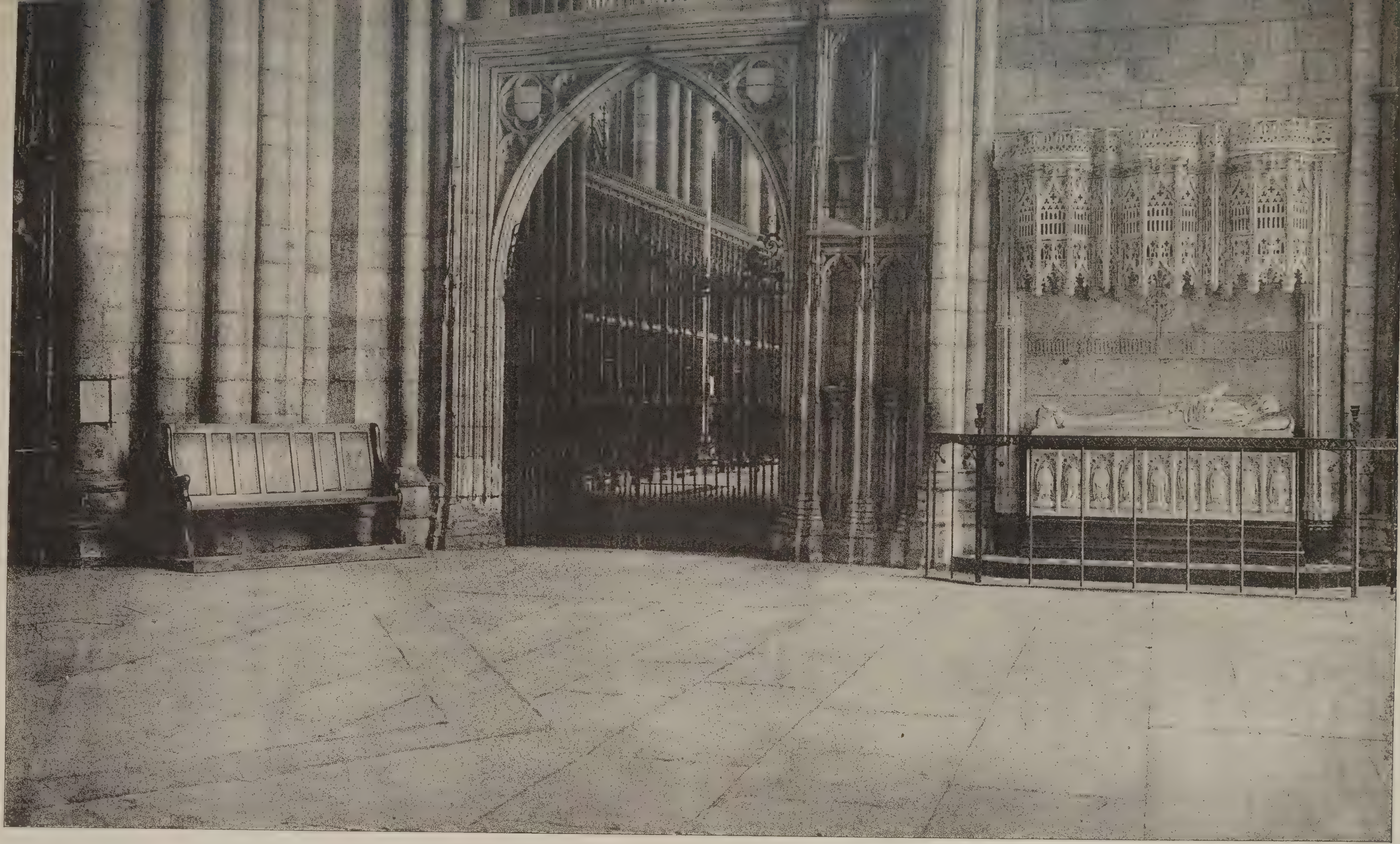

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Cathedral Series, No. 324.—York Minster: Entrance to the South Choir Aisle.

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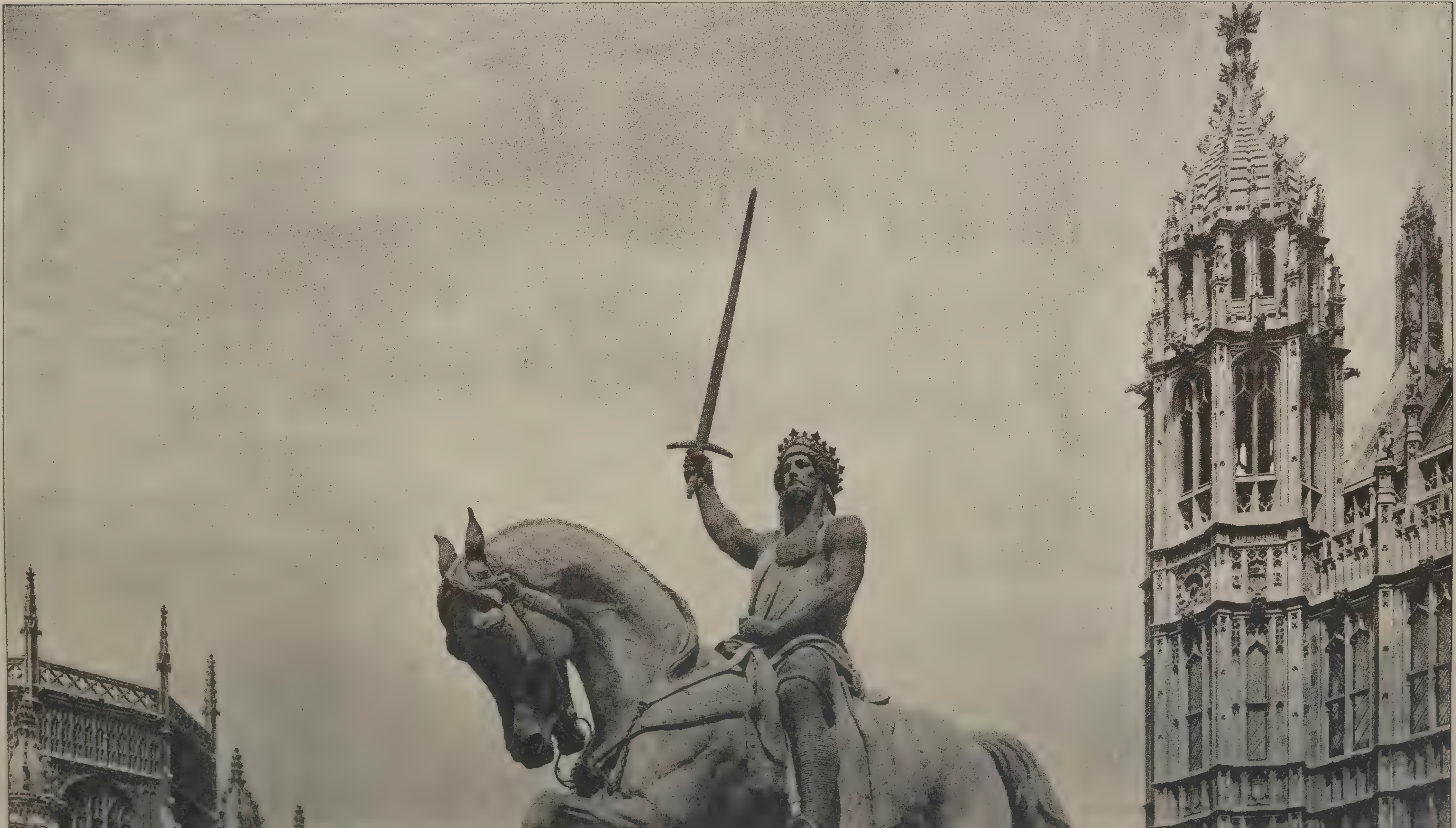

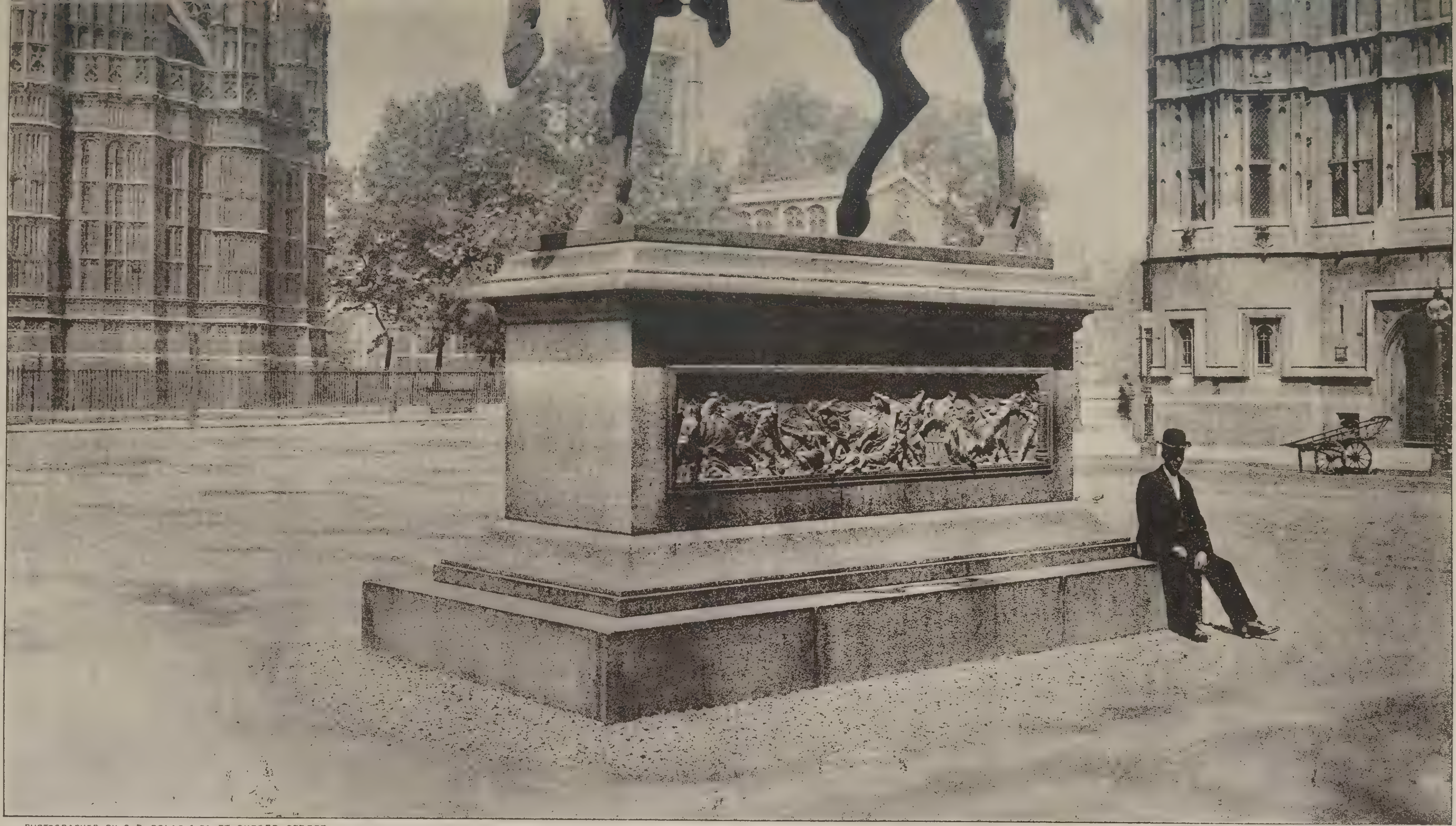

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STATUE OF RICHARD CŒUR DE LION, WESTMINSTER.

BARON MARSCHETTI, R.A., Sculptor.

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The Architect.

THE WEEK.

The meeting at the Mansion House on Tuesday may be considered as the public approval of the project for raising a memorial to Queen Victoria by means of voluntary subscriptions. By giving 5,000 guineas towards the fund the London Corporation have shown their loyalty and their munificence. It was needless for any of the orators who took part in the proceedings to exercise their power of persuasion, for all who attended, and they may be taken as representing the public opinion of the country, were already convinced about the duty to raise a memorial which will express the national esteem, and demonstrate its power over national art. It would be impolitic for any of the members of the committee to communicate his views about what is contemplated, but it is well to note that Mr. A. J. Balfour announced the hope that a great architectural and scenic change would be executed near Buckingham Palace, resembling some of the undertakings which in other countries have been accomplished with universal satisfaction. This great scheme, as he termed it, will no doubt be comparatively costly, for the example of the citizens of Calcutta was referred to, who have already raised a quarter of a million for a similar object. Sir William Harcourt called attention to the unworthy manner in which many English characters have been commemorated, and expressed the hope that the royal memorial would be worthy of its object. From the speeches it is evident that a definite idea of the memorial has been formed. There will be no attempt to combine utility with beauty. It is, as we have said, to be the visible evidence of a noble sentiment, and consequently there cannot be too much beauty about it. The days for weeping cherubim and virtues in marble have passed away, and what is now desiderated is architecture and sculpture which at no future time can be made a subject of ridicule.

Although sanitary surveyors are not rare in the land, and their fees are generally moderate in amount, it is remarkable how commonly tenants will accept the vaguest expressions of belief in the sanitary perfection of a house as a guarantee rather than pay for an examination of the arrangements. A case which was heard this week in the Court of Appeal was so like many others, the judges and counsel must have been wearied. A colonel in February, 1899, agreed to take a house in Surbiton on the assurance, as he alleged, of the owner that the drainage was in perfect order. When he entered he found the house in such a condition that he, his wife and daughter, suffered in consequence, and were compelled to seek change of air at the seaside. During his absence the house was sublet to a lady, who showed her good sense by calling in a sanitary inspector, and declined to live in the house until the alterations recommended by him were carried out. The colonel claimed damages for loss of rent and expenses incurred through the illness of himself and his family. The jury found there was a distinct representation about the drains being in good order, but there was nothing fraudulent in it, and the damages were assessed at 75*l.* Mr. Justice Bruce, however, gave judgment in favour of the defendant. The plaintiff lodged an appeal, which was allowed by their lordships. The Master of the Rolls in delivering the judgment of the Court of Appeal, reviewed the decisions in several similar cases. The question turned on whether defendant's giving his word about the perfect condition of the drains was to be considered as a warranty. It was held by their lordships that in order to create a warranty no special form of words is necessary. It must be a collateral undertaking forming part of the contract by agreement of the parties express or implied, and must be given during the course of the dealing which leads to the bargain. It should then enter into the bargain as part of it. Acting on that principle the plaintiff was found to be right. Even if the jury had not found a warranty, the true inference was that there was a warranty given in the case collateral to the lease, and therefore the judgment entered for the defendant must be set aside and judgment entered for the plaintiff for the 75*l.*, the amount found by the jury, with costs. The case exemplifies conditions of letting which are accepted throughout the country. There was not a tittle of evidence to suggest that the owner of the house tried to deceive his tenant. He had shortly before expended money on drainage. But sanitary arrangements will not endure for ever. The whole expenses and trouble would have been spared to the parties if a surveyor or sanitary inspector had been called in and his recommendations attended to.

The interest in the Building Trades Exhibitions at the Agricultural Hall, Islington, has been increasing as the years roll on. The approaching Exhibition, which will be held from April 17 to 27, promises to surpass the majority of its predecessors. The eagerness of manufacturers and other exhibitors to participate in the advantages which experience has justified has caused the whole of the immense ground floor to be already taken for stalls. Among the products exhibited will be much which will be attractive not only to architects and builders, but to the public in general. Among the novel features which will give interest to the Exhibition may be mentioned the collection of architectural drawings, which will be seen under conditions more favourable for consideration than are to be found in Burlington House. The Fire Prevention Section will reveal the excellent work which has been in progress unobtrusively by the British Fire Prevention Committee. The Coal Smoke Abatement Society was only recently formed, and it cannot produce so many proofs of utility as Mr. Sachs's committee. Something has been done to put a check on the abuses which many owners of chimneys have claimed a right to perpetrate. Taken all together, the Exhibition will be more than an agreeable lounge, and it will be disappointing to its promoters if it should not be able to render efficient service to English architecture and building with their subsidiary industries. Many will be interested to know that several notabilities, Lord Roberts, K.G., being one of them, will give their support to the Exhibition.

When Lord Justice Collins said on Tuesday in his judgment in Whitehead *v.* Reader that "It was clearly competent to the master to define and limit the sphere of his servant's employment, and if the servant acting within that sphere violated the order of the master, the latter would be responsible. If, however, the servant went out of the sphere of his employment as so defined and limited, and acted in the other sphere, which was outside his employment, the act of the servant in that other sphere could not render the master liable either to the servant under the Workmen's Compensation Act, 1897, or to third parties at common law," he expressed a belief which is general among employers. Mr. Reader, the defendant in the case, who is a builder, had issued orders that ordinary workmen were not to meddle with machinery. But one of the carpenters who was sharpening his tools at a grindstone worked by a gas-engine, seeing that a leather band had slipped, tried to replace it and was injured. He sought compensation, and the county court judge awarded him 12*s.* 6*d.* a week on the ground that the accident arose out of the man's employment. The defendant appealed, but without success, and a stay of execution pending an appeal to the House of Lords was refused. The Master of the Rolls, Lord Justice Collins and Lord Justice Romer agreed that an order had been given prohibiting the meddling with machinery in the yard. But it was considered that, on the impulse of the moment, the order was forgotten, and that could be regarded as no more than a venial act. Those who are familiar with the ways of modern building workmen are aware that impulses which drive a man, in his employer's interest, to do anything risky are unknown. A workman, as a rule, is too glad to have an excuse for ceasing to labour. If he appears to depart from his jog-trot course it is owing to the conclusion that to have to resume his work under different conditions is more troublesome than to accept the remote possibility of an accident. From the decision given by the Court of Appeal it is evidently of little use to put up notices, for indifference to them, no matter what loss arises to the builder, can be described as a venial fault and the result of a generous impulsiveness to save an employer's time.

LIAS LIME.

WHEN the Count MONTELAMBERT eulogised the constitutional system of England in order to demonstrate by contrast the defects of the Third Empire, the French Government had him prosecuted in one of the police courts of Paris. No punishment could have been more painful, for it placed the most eloquent of French orators on a footing with pickpockets, and the Count never got over the ignominy. To a stranger it may appear no less remarkable that so scientific and important a case from a constructional point of view as the determination of what is meant by blue lias should be left to the decision of a magistrate in a London police court. The subject should have been investigated by a tribunal of experts consisting of architects, chemists, engineers and geologists, but it is not likely that their decision would have differed from that arrived at by the good sense and experience of Mr. HORACE SMITH, the Westminster magistrate. The action was brought under the Merchandise Marks Act, and although it is absurd to treat the great phenomena of nature like a cake of soap which bears a trade mark, yet from motives of economy and out of mercy to ordinary litigants, a police court becomes the tribunal for inquiries into alleged breaches of the Act, whether vast or trivial. In the case in question a cement company of Royston, Cambridge, were summoned for selling lime which was described as "blue lias," but which either did not come from the Lias formation or from another district in which the plaintiffs possess an interest.

The first question which arises in such a case is, How did the term lias originate? It is commonly supposed to be derived from a local pronunciation of the word "layers." More than a century ago "lias" was used by the Rev. JOHN MICHELL, one of the early students of geology. It is as expressive as some others which denote formations. It was adopted by WILLIAM SMITH, who is so often described as the father of English geology, and then became a permanent addition to geological terminology. The quarrymen used it to designate beds of argillaceous limestone found in Somerset. If the term is now generally known it is owing to the remarkable remains which were found in the beds that constitute the formation. The fossil shells are not more familiar than those found in different strata above and below the lias, but everybody has heard about the plesiosaurus, the icthyosaurus, the pterodactyle and other colossal reptiles which have done so much for the popularising of geology.

In 1829 PHILLIPS of Oxford divided the beds into upper, middle and lower divisions, but the boundaries between them are not always certain, and, in fact, some geologists consider that the lias cannot be brought under any divisions. The beds are found not only in Somersetshire, but in Dorsetshire, Gloucestershire, the Midlands, Lincolnshire and Yorkshire. Much of the difficulty of discriminating between beds arises from the fact that the lias is essentially a great clay deposit, and consequently there is a mixture of argillaceous limestone, argillaceous sandstone, besides loose sandy deposits. In some places black shales rest on red marls, without the intervention of any bone beds or limestones, while in other places limes are interstratified with clays. As for the upper lias, the demarcation between the brown and yellow sands and the inferior oolite is so difficult to mark, the geologist can only be guided by the evidence of fossils. The same difficulties appear to pervade all the beds in the long lias district stretching from Lyme Regis to Whitby. Owing to the indefiniteness, there was at one time some hesitation in accepting lias as a distinct formation, and it was owing partly to its abundance of astounding fossils, and partly to the assertion of LYELL that the lias could be traced throughout a great part of Europe as a separate and independent group, that it was allowed to pass as a peculiar formation.

If we assume there are three divisions of the lias formation, we shall find that from each of them much is derived which can become useful to man. Iron pyrites, which are much used in the manufacture of sulphuric acid, abound in the lower beds, and for all we know to the contrary may have contributed to the poisoning of Lancashire beer drinkers. Then there are large slabs as well as the small stones which are used in lime burning. The cement stones may be considered as a special product. Some of the clays are used for bricks and tiles. It has even been supposed from the variety of products that coal could be found, and money has been wasted on sinking pits. Cleveland iron is derived from the middle lias, which also furnishes a stone that is useful for building walls. Alum is obtained from the upper beds, and what is extraordinary, hydraulic lime has been found near it in the Whitby district. From the wealth of lias in industrial products, it would appear very difficult for a lawyer to say with exactitude to what particular bed the phrase "lias lime" could be applied. He must take into account the extent of the area where lias is to be met with, and which is not confined to England, and he must also consider the variety of the beds which makes uniform sections difficult to be found. However long he may consider the subject from a legal point of view, it would be hard to discover any one characteristic which could bring the products under an Act so limited in its application as the Merchandise Marks Act.

There is another consideration which a lawyer, although he had never given much attention to the subject of the preparation of lime, must respect. What is the value of lias lime, and how does it arise? The answer which would be derived from any elementary book would be its hydraulic qualities or power of setting under water. But it could not be claimed that lias lime alone should be considered as hydraulic lime. Limes of that kind are known not only in English markets, but in most foreign markets. It cannot be said that the investigation of the strength of lime has been carried to an extent which demonstrates the pre eminence of blue lias lime, and would therefore warrant a monopoly of the term hydraulic lime by its producers. There may be advocates who believe in lime derived from the lias formation, but the reasons for their preference are not to be found in any authoritative work to which a lawyer would be likely to have access. In all such cases a judge has to be guided by a principle, and he would have to formulate one for himself if he were to decree the superiority of blue lias lime over all others produced in England. The title is against such an assumption, for it has been in use for 120 years, and originally was not based on any properties of the stone, or any reference to the locality whence it was derived. There are no generally accepted experiments which point to the superiority of lias lime; and, in a word, there is nothing which, in a legal sense, could be taken as applying a right to a monopoly. It has been said that nobody can indict a nation, and, in the same way, it would be hard to allow any portion of the vast district which the commonest geological map shows as representing lias, and which, like a colossal reptile, extends from the south-west of England to the north-east, to claim the sole right to be considered as the representative of a special lias product.

We must also take into account the power of the markets. Architects and engineers cannot be expected to insist on a guarantee of the origin of all the materials they employ. Stones, limes, cements, bricks, bear certain names and have characteristics which in course of time become generally accepted. In specifications, therefore, reference is made to trade names, and it would go very hard with contractors if geographical or other interpretations were attached to those names. Portland cement is an almost universal designation for a material, but it would be absurd to suppose that what is produced in France, Germany, the United States and Japan all comes either from the Isle of Portland or from a factory alongside the Medway. The purchaser in most cases may care little about geography; what he seeks is a material possessing certain definite properties which he can prescribe, and so long as the material sustains the tests which he names in his specification the architect or engineer need not be disturbed if he found the cement had been made out of meteorites. Names have been so often found to be deceptive, it is not wise to trust to them; what is desirable is power to withstand breaking forces, whether chemical or mechanical. It is not much that science can do to insure the attainment of perfect building materials, but with all its shortcomings it is better to trust to experiment than to any nomenclature.

A judge who would work out the subject in his study would be likely to follow the course of reasoning which we have indicated. Even an elementary acquaintance with the laws of evidence would be able to reveal that the problem was one which is very vast and which would be sustained by two classes of witnesses equal in power and in experience. There can be no question that blue lias lime derived from various parts of the territory assigned to the formation by geologists is a most valuable material. It has been long used in construction, and it has not caused disappointment; but exactly similar testimony could be borne to the merits of hydraulic lime which is produced elsewhere. England, in fact, considering its size, is remarkable for its riches of that kind, and when nature has done so much for us it is not wise to appear to restrict her beneficence. The magistrate therefore very wisely, as we think, and in accordance with judicial precedents, declined to treat the case as if it were one of a label on a bottle or a monogram on a plate. What is more, he did not hold out any hope to the applicants that by incurring more costly expenses they would gain a decision in their favour if they proceeded to a higher Court. The truth is, the case is not one of quibbles or technicalities or non compliance with official regulations. It is one of those which, if possible, ought to be defined by the fixed rule of law, what Lord Coke calls the "golden metwand of the law." No man living can claim that he invented the title "lias lime," or even "blue lias lime," and no lime-burner, contractor or geologist could affirm that the lime is to be found in one particular district of a region which extends for 300 miles. In spite of the judgment of Mr. Horace Smith, it is still open to builders to use that lime alone which is produced by the Association that was the applicant in the case heard in the Westminster Police Court, but it is no less allowable to employ hydraulic lime equal in quality, regardless of its origin and of the title it bears.

AN AMERICAN DICTIONARY OF ARCHITECTURE.*

BUILDING is an art which could be practised without much aid from oral language. We might even imagine a Mediæval Guild of Builders who, believing that silence was golden, were able to erect cathedrals and churches without using a word. It is by drawings and models the architect expresses his thoughts. If the character of the materials to be employed in his buildings cannot be suggested by drawings, samples could be furnished.

In building, however, as in most other things, custom has made words a necessity. In a large number of cases building terms daily heard in offices and works are an inheritance which we have derived through successive generations from antiquity. We do not always make use of the very words which Greek and Roman architects and builders employed; but since Vitruvius was discovered and made an oracle there is no doubt certain terms are as familiar in our mouths as they were to those who built antique temples.

Since that is the case every dictionary of architecture should as far as possible show our indebtedness to the past. In no art is the etymology of technical terms more expressive than in building. The very word "building" comes to us from some ancient Swedish, Gothic or German original, which suggests tilling of the soil when the farmhouse seemed to be of secondary importance to the land, and it may even suggest the boles of trees which made up the primitive loghouses. An architect in Greece and Rome signified the chief artist, but when we find the old Germans calling him Baumeister, we realise the northern idea of a master builder rather than a fine gentleman, and our imagination sets to work in picturing a stout burgher who could use his hands in many trades, and who made any drawings which were required with a piece of chalk on a board or slate when the occasion for them arrived. It is a pity that Mr. Sturgis has been indifferent to the traditional associations belonging to many of the building terms which he introduces in his work. There is no general recognition of etymology as essential to the knowledge of technical language, although occasionally he may refer to some ancient signification of a word. As a rule it might be concluded that all the terms are as modern as if they were first heard among the builders of the many-storeyed offices. Wanting the etymology a definition becomes less expressive. For instance, donjon to most people recalls dungeon, and therefore when it is said a donjon is "the strongest part of a strong castle in the European Middle Ages," it is not immediately acceptable. But as soon as we know that donjon comes from the Latin "domnio," the dominating building of a castle, the word seems happily selected. Then, again, the word "chevet" seems to have little meaning when it is described as the "rounded end of a choir in a church," but on finding it is derived from chef or caput—that is, the head or most important part of the body—the word is a significant designation for the place where the high altar stood, and which some people supposed was inclined from the axis of the building in order to be symbolical of the head of Christ when the consummation of the sacrifice was finished.

If the first volume can be taken as a standard, America has not furnished as many building terms to the English language as might be expected. The adobe is known as a sun-dried brick in Spanish America, but adobe clay which contains sufficient aluminous matter to serve as a bond, adobe concrete, adobe mortar, adobe plaster, &c., are not, we suppose, much known beyond New Mexico. In the States "barn" is not confined to a store-house for grain, for "the term is constantly extended to cover the stable for horses or cattle or both, as it is more usual to build a single large building for all these purposes." We learn, also, that the word "barracks" is applied to a roof of thatch or similar inexpensive material which shelters hay, and is lowered as the hay is removed. What is called American bond in brickwork is a course of headers to every five or six courses of stretchers. In describing the varieties of bricks mention is made of "water-struck" brick, in which water was used instead of sand to prevent the adhesion of clay to the mould, and which has, in consequence, a peculiar surface.

It is satisfactory to find that much is said about earlier American architecture, which must always be interesting if it were only on account of the mystery which surrounds the builders. For instance, "assembly chamber, assembly house," does not refer to any modern Parliamentary building where log rolling is familiar and fulminations against England are not infrequent, but to the immense halls which were run up by various classes of Indians for their palavers. One at Port Madison measured 520 feet by 60 feet by 15 feet. The Korac Indians must have been fond of burrowing, for their council chamber was wholly underground. The Yuki used a dome-shaped house thatched with grass and covered with earth, in which flowers were planted. In Potter Valley, California, remains of a circular chamber 63 feet in diameter were found. Another curious structure was the Alaskan house known as Barabara. It was made of logs or whale ribs surrounded by sods, and the roof was covered with sticks, dry grass and sods. Seal intestine was used for glazing.

At Chihuahua, Mexico, are groups of communal dwellings known as Casas Grandes. Some were five storeys high, and the walls varied in thickness from 16 to 48 inches. The groups were separated by narrow streets. In Central America explorations have lately been conducted by members of Harvard University, by which the knowledge acquired by Stephens, Squiers and others has been extended. Copan has been the most carefully examined, with the following result:—

> A section of the principal mass has been exposed by the cutting of the river, and exhibits three thick layers, one above another, divided by pavements of cement, the present buildings resting on the last or topmost pavement It is probable that each floor sustained in former times various buildings, and architectural work here therefore seems to be of great antiquity. Copan has been called the oldest city in America. The central mass rises in steps and terraces forming a huge platform, which culminates in terraced elevations bearing the ruined buildings described as temples, but which were probably

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* *A Dictionary of Architecture and Building, Biographical, Historical and Descriptive.* By Russell Sturgis, and many architects, painters, engineers and other expert writers, American and foreign. In three volumes. Vol. I., A–E. (New York and London: Macmillan & Co.)

of varying function. The casing of the mound and the walls of the buildings are of fairly well-dressed oblong stones laid usually without mortar. Little or no attention was paid to breaking joints. The mound slopes were built in terraces about 5 feet high and 5 feet wide, or in steps of single or double rows of stones. As in all this class of works, the masonry was coated with stucco, which was then coloured. The main bulk of the mounds and foundations is a rubble of rough blocks of stone and mud, apparently bound together by internal upright walls. The general construction being the same as that of the Yucatan Maya ruins, and the vault used being the same so-called triangular or corbel arch found there, and the inscriptions being similar, these remains may be safely classed as Maya, though we have no decipherable records of the builders. The sculptures seem to be of a somewhat finer order. Twenty-three remarkable stelæ, or monolithic monuments, elaborately carved with human figures and hieroglyphs, have been found. Each had in front a sculptured block described—for want of a better name—as an altar. Their average height is 12 feet, and their breadth and thickness each about 3 feet.

The cliff dwellings of Northern Mexico form another puzzle for archæologists. It is not to be supposed a desire for safety alone dictated their construction; comfort and seclusion were also considered and where the sandstone offered recesses whole villages were built. In softer strata galleries were formed which were used as approaches. Emerson describes cliff dwellings which were discovered by American explorers, and suggests the occupants were not much higher than bats in intelligence, but his words are not applicable to the races who once occupied the Mexican cliffs, for they constructed walls of slabs and blocks, and laid the stones in adobe mortar. It is remarkable also that the communal or associated dwellings of some of the French economists have had their prototypes in America. The materials employed varied according to circumstances. In the forests bark houses were raised; elsewhere stone or adobe was used, or dwellings were excavated in the rock.

There is not much difference between American and English architectural practice as regards the items which are introduced in the first volume. The quantity surveyor's occupation may be said to be gone in the United States. The contractors prefer to prepare their own bills and tables. The English practice they consider leads to a low class of contractors attempting the execution of high-class work. The English bill is considered "minute and analytic to the verge of triviality," while the American builder's treatment is broad and sweeping. An example dealing with masonry is given, and runs as follows:—

> A street façade of freestone would, in the first case, be itemised as follows:—Cubic feet of stone; superficial feet of beds and joints; superficial feet of back joints; superficial feet of plain face; superficial feet sunk face in panels; of rusticated face, vermiculated face, &c.; labour, hoisting and setting *n* feet from ground; lineal feet labour in cornice moulding, inches girth; labour only cutting details, *n* inches by *n* inches; lineal feet labour on architrave mouldings, *n* inches by *n* inches girth; labour only carving members as per sketch—and so on for several pages, most of the items being repeated in numerous variations for similar features, and in a separate series for all curved and other "extra" priced works. In the American builder's estimate this work would be taken off in a few broad items, thus:—(*a*) Superficial feet of ashlar, *n* inches thick, including setting; (*b*) cubic feet of stone cut in "trim," including cornices, bands, architraves, quoins and all features not plain ashlar; (*c*) carving, a single sum based usually upon a foot superficial measurement; (*d*) any special feature, such as polished columns.

If the English bill of quantities is ever accepted in the United States it will have to be made out in a different manner from that which prevails in this country. In the article on contracts it is said there will be no great improvement obtainable in the architect's practice until the commission system is abolished and architects are paid either by salary or a lump sum. The contract system will also, it is said, have to come to an end, and there must be a return to what are called older and wiser methods. The principal reason given for the revolution is the difficulty of being able to foresee everything in a design which has to be prepared beforehand in order that the contract may be based upon it. In an ideal system, according to Mr. Sturgis, the architect would be able to alter details whenever he thought it necessary, or in other words, "to make a working drawing on the back of the board; to visit his building to-day, and on returning to the office make a drawing for a pillar, a niche, a dado or the like, not in advance of the foundation, but after some familiar acquaintance formed with the building in its main lines." Whether American expedition would be in keeping with arrangements so liable to modification does not seem possible to those who have to judge from a distance.

The last passage suggests that the authors of the dictionary are not satisfied with treating of the present and the past; they also do not shirk from glancing at the future whenever an opportunity arises. The work is, as the title-page suggests, biographical, historical and descriptive. It is also comprehensive, for what is known of architecture in other countries is treated with no less care than is devoted to the practice of the art in England and America. The illustrations are most numerous, and have been produced from photographs or from good engravings by English and foreign artists. The work will serve for reference, but it can also be read for its interest, and there is much which will appeal to every educated layman. The large number of contributors is a guarantee of catholicity in the consideration of the subjects, and the volumes should do much towards popularising architecture.

DE MAULEY'S EFFIGY.

WHEN the historical importance of York Minster is considered, the limited number of ancient memorials of the dead found in the building must strike every visitor. It is commonly said that the destruction of monuments was owing to the changes of opinion which occurred at the time of the Reformation and during the Civil War, but there is no exact information on the subject. All Britton could say on the matter was:—"At the period of the Reformation the furious zeal which demolished so many beautiful monuments of antiquity did not spare York Cathedral, nor did the fanatics of Cromwell's time omit here their pious practices of destroying the figures and epitaphs on the tombs and stealing the brasses." But wholesale allegations of that kind do not count for much among modern archæologists.

The effigy of De Mauley which once was seen in the north aisle of the chancel, for instance, did not suffer at the hands of the Reformers or the Puritans. According to Britton the vergers at the beginning of the nineteenth century continued to describe it as a figure of the son of Severus, and another figure near it was identified as a portrait of the emperor himself A more characteristic example of the official lore which was familiar in cathedrals, and has not entirely passed away, could not easily be discovered. The effigy was broken in pieces by the falling of timbers during the fire of 1829, which was caused by the lunatic Martin. Some of the fragments were removed and were used as part of a rockery in a private garden near the Minster. They were afterwards placed in the archæological collection of Sir Samuel R. Meyrick at Goodrich Court, who was proud of the possession, because the effigy was a testimony to the truth of his theory about the difference between single chain-mail and double chain-mail.

The knight, it will be observed, wears a coiffe de maille, a camail, a hauberk, chausses with surcoat, &c. Fig 1 beneath the effigy shows the arrangement of the single mail of which the coiffe was composed, and as much of the camail or neck-guard as would be covered by the helmet. In fig. 2 we see the formation of the hauberk, or coat of mail. It may be safely assumed that the sculptor represented what he saw, and that in one part of the armour the rings were interlaced singly, while in the remainder the interlacement was in pairs. The only other known representation of the difference between the two varieties of the mailles is a figure of a knight at Rampton, Cambridgeshire.

The effigy, of which a sketch is on next page, is believed to represent Sir Robert de Mauley, who signalised himself in the wars of Edward I and died in the reign of Edward II. He took part in the battle of Bannockburn, and is referred to in several documents of the time He appears to have been appointed sheriff of Roxburgh. The De Mauleys appear to have been attached for a long time to the English court. One called Peter, who was a Poitevin, may be considered the original of Shakespeare's Hubert in "King John" He was one of the king's esquires, and obtained as a reward for services the hand of the heiress of the barony of Mulgrave He held the office of high sheriff of Dorset and Somerset. He was entrusted with the care of the regalia, and brought it from Corfe Castle for the coronation of Henry III.

The monumental effigy represented was in Dugdale's time seen in the nave of the Minster near one of the clustered columns supporting the tower on the south side, but was afterwards removed to the north aisle of the choir.

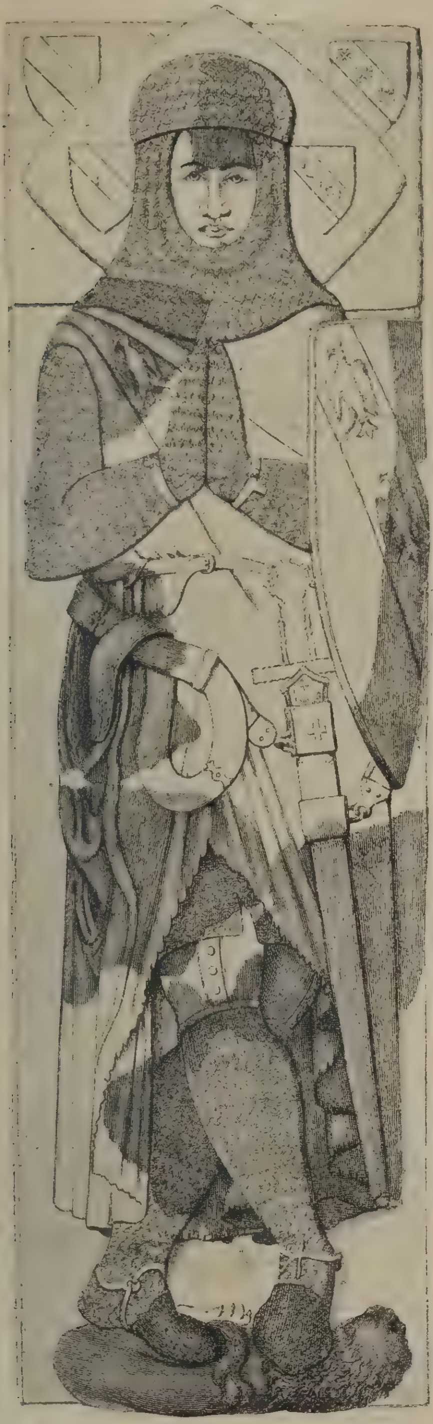


Fig. 1.

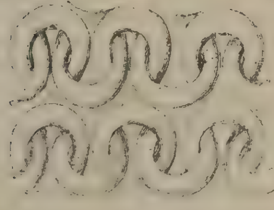
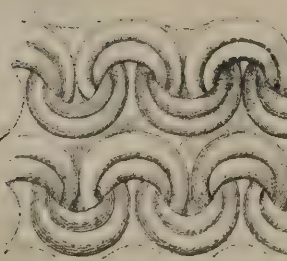


Fig. 2.



Effigy of De Mauley, formerly in York Cathedral.

BUILDING BY-LAWS IN RURAL DISTRICTS.

A DEPUTATION appointed by the Council of the Royal Institute of British Architects waited on Mr. Grant Lawson, Parliamentary secretary to the Local Government Board, on Tuesday, the 12th inst., to lay before him the views of the Institute on the question of administration of building by-laws in rural districts, which had already been expressed to the Local Government Board in October 1899, when Mr. T. W. Russell received the representatives of the Institute.

The deputation consisted of the following gentlemen:—Mr. W. M Fawcett (past vice-president); Professor T Roger Smith, fellow; Mr Lacy W. Ridge, fellow; Mr. H. D Searles-Wood, fellow; Mr. E. Guy Dawber, associate; and Mr. W. J. Locke, secretary.

The points submitted to Mr. Grant Lawson had been summarised as follows:—

1 That there has been of late a great increase of interference by public bodies and their officials with buildings in country places.

2. That this has arisen from the Local Government Board having permitted, and in fact encouraged, "rural authorities" to take to themselves "urban powers"

3. That such an assumption of powers by a local authority is an unnecessary and vexatious infringement of the liberty of the individual subject.

4. That it is undesirable, except perhaps in public buildings, that local authorities should relieve private persons from their responsibility for the soundness and sufficiency of their building construction

5. That there is no desire on the part of the Royal Institute of British Architects to limit the application of such by-laws as are strictly sanitary in their object.

6. That there is no objection to by-laws as to the width of streets being generally applicable, as they would remain inoperative while a district remained rural.

7. That a complete and efficient by-law as to party-walls would sufficiently protect each individual from the danger of fire from his neighbour's premises in country places, in uncrowded districts, and wherever streets are laid out with the width and spaces required by the by-laws.

8. That in such places the minute requirements of the by-laws against fire, founded as they are on the legislation originally passed for overcrowded London after the Great Fire, are unnecessary and vexatious They are frequently rendered grotesque by the erection of large structures in wood under the form of balconies and verandahs.

9 That the local authorities are practically dependent on the Local Government Board for assistance and direction in framing by-laws

10. That the scheme of the R I.B.A. is that the Local Government Board should arrange their model by-laws in divisions, and sanction in each district only such as are really needed therein, and so protect the public from vexatious interference in building.

11 That this is a matter to be met wholly by administration within the Board and does not require legislation.

R I B A. Suggestions for Legislation.

1. That the system for dealing with party-walls by the appointment of three surveyors as re-enacted in the London Building Act 1894 has proved successful during a long period.

That it is desirable that it should be extended to the growing suburbs around the districts of the London County Council, to such towns as are without special legislation on the subject, and to England and Wales generally.

2. That it would be desirable to establish a tribunal of appeal in connection with the Local Government Board for settling differences which arise as to the meaning of by-laws and building regulations

That to be of value the tribunal must act with speed and have technical knowledge.

Mr. Grant Lawson, replying to arguments in support of the above points, said that both the President of the Local Government Board and himself were agreed that evils did exist in the present system of administration of building by-laws, and that there should be a difference in the codification of by-laws for rural and for urban districts. The proposals of the Royal Institute had received careful consideration, and since the appointment of Mr. Walter Long and himself efforts had been made as far as possible to adopt them. Mr. Lawson first desired to point out that it was not the function of the Local Government Board to take the initiative in the question of district by-laws; the Board only approved by-laws submitted to them by local authorities It was not in the power of the Board to compel a local authority to adopt any particular set of by-laws As regards encouraging local bodies to take "urban powers," the Board only did so in cases where very insanitary conditions rendered such a course desirable. With regard to meeting the views of the Institute, the Board had drawn up a set of proposed model by-laws for rural district councils, on which he invited the opinion of the Institute. These by-laws were scheduled as follows :—

(*a*) Interpretation of terms.

(*b*) Exempted buildings.

(*c*) Structure of walls and foundations of new buildings for purposes of health. With respect to the sufficiency of the space about buildings to secure a free circulation of air, and with respect to the ventilation of buildings.

(*d*) With respect to the drainage of buildings.

(*e*) With respect to water-closets in connection with buildings, and with respect to the keeping of water-closets supplied with sufficient water for flushing.

(*f*) With respect to earth-closets and privies in connection with buildings.

(*g*) With respect to ashpits in connection with buildings.

(*h*) With respect to cesspools in connection with buildings.

(*i*) With respect to the closing of buildings or parts of buildings unfit for human habitation and to the prohibition of their use for such habitation.

(*j*) As to the giving of notice; as to the deposit of plans and sections by persons intending to construct buildings; and as to inspection by the Council.

(*k*) Penalties.

(*l*) As to the power of the Council to remove, alter, or pull down any work begun or done in contravention of the by-laws.

(*m*) Repeal of by-laws.

Mr. Grant Lawson pointed out that these proposed by-laws were mainly sanitary in their application, and that regulations as to materials and structural details were omitted.

With regard to the request of the Institute for an extension by legislative means of the party-wall system in London to all districts in England and Wales where no special legislation existed, Mr Lawson said that he could not promise any action this summer, but he would add the subject to the list of Bills which the Local Government Board hoped to introduce at some period during the continuance of the present Government

The deputation having thanked Mr. Lawson for the courteous action of the Local Government Board in submitting the draft model by-laws for the consideration of the Institute, and also for the sympathetic manner in which he had received them, then withdrew.

The questions are now before the original committee of 1899, who are preparing a report to the Council.

SHAKESPEARE AND CONTEMPORARY ART.

IN the first lecture by Sir Wyke Bayliss, president of the Royal Society of British Artists, in the theatre of the Royal Institution, on "Shakespeare in Relation to His Contemporaries in Art," it was remarked that in the year in which Shakespeare was born Michel Angelo died, and although Titian and Tintoretto lived for some few years afterwards, roughly speaking there was not during the boyhood and early manhood of the poet a single painter of the first rank. It was startling to say and difficult to realise that Shakespeare never saw a landscape painting. The interregnum between the decadence of the earlier schools and the rise of the modern was a marked feature of the reign of Elizabeth. During Shakespeare's life there were no fewer than nine Popes, but there was not one great artist. In the year 1600, when "A Midsummer Night's Dream" was entered at Stationers' Hall, Claude, the first landscape painter, was born on the banks of the Moselle, but he was only a lad of seventeen when Shakespeare died. To the question, "Who were Shakespeare's contemporaries in art?" the reply was he had none, and accordingly his writings showed that the poet, who knew so much about nature, knew very little about art. His references to its history, its aims and its technique would be appalling were not the circumstances in which he lived borne in mind His mistaken estimate of the masters was shown by the selection which he made of a name as that of the greatest Italian artist, of whom he spoke as a sculptor, although he was a painter; and in writing of Leontes and the statue he disclosed that his conception of the aim of art was that it should be the ape of nature—not her interpreter. In every point relating to sculpture and painting Shakespeare was at fault; in everything relating to his own art Shakespeare stood supreme as master of the human heart. This solitariness of Shakespeare, this isolation from the influence of art, was the more remarkable when its exceptional nature was considered. In the case of no other of the great poets of the world—Milton, Chaucer, Dante, Virgil and the Greek dramatists, for example —could anything like its parallel be found. The lecturer quoted descriptive passages to show the splendours of Shakespeare's vision of the natural world, and said this had its fruition later on in the rise of the great school of landscape painting; and in concluding his address, Sir Wyke Bayliss described eloquently a theatre yet to be built, in which Shakespeare's plays should be performed, a theatre as free to the people as our cathedrals are free, where the rich should not be ashamed to sit with the poor and the poor should not be crowded out by the rich, and where around the building he wished to see a frieze more lovely than that of the Parthenon, telling pictorially the story of Shakespeare's days.

TRURO CATHEDRAL.

AT a meeting of the Truro Cathedral committee on the 21st inst. the Bishop (Dr. Gott) announced that the recent anonymous offer of 10,000*l.* for the building of the central tower of the cathedral was made by Mr. J. H. Dennis, of Arrowe Hall, Cheshire, and Grenchurst Park, Surrey. Mr. Dennis is a native of Cornwall, and for many years was engaged in business in Liverpool. The Rev. R. Martin, brother-in-law of Mr. Dennis, said that that gentleman, who was unable to attend through ill-health, wished the tower to be known as the Victoria Tower. He also wished it to be understood that he would bear the cost of erecting the tower, even though it might amount to more than 10,000*l.* He was prepared to hand over to the committee 10,000*l.* in London and North-Western 3 per cent. debenture stock, and he desired that if in future anything was required in reference to the tower, before any other person or society was asked to contribute he or his heirs should be first asked. On the motion of Colonel Tremayne, seconded by Archdeacon Cornish, it was resolved :—"That this committee desires to express its thankfulness to Almighty God and its gratitude to Mr James Hawke Dennis for his munificent gift, which will enable them to unexpectedly build the central tower and so complete the interior of the cathedral and the main feature of its exterior, and to commemorate by so doing the noble life and reign of our late Most Gracious and Beloved Queen Victoria." Mr. Pearson, the cathedral architect, said that the erection of the tower could go on simultaneously with the building of the nave now in progress. The contract for the nave was to be completed by January 1903, and he thought the tower and spire could be built by the end of the year or the beginning of 1904. Mr. Pearson was instructed to prepare the necessary plans and proceed with the work as quickly as possible. It is understood that the cost of the tower, which was originally estimated at 10,000*l.*, will, owing to the advance in the price of building material, now amount to about 13,000*l.*

STATE GOVERNMENT AND PRIVATE PRACTICE IN AUSTRALIA.*

THE weakest feature in the system of carrying out architectural works for the State by a large Government department is that all credit or blame is given to one man—the chief alone. Now I came across a very pertinent saying of Bacon's the other day, "Preserve, likewise, the rights of inferior places, and think it of more honour to direct in chief than to be busy in all." So self-apparent and axiomatic a statement ought always to be in the minds of those who control large departments of State. If you do not give "credit and renown" to the man who designs a safe, economical and beautiful building, bridge or other great work, but simply praise the figurehead who has affixed his signature to the drawings his subordinate has prepared, can you fairly exercise your sense of displeasure when the results are loss and danger and ugliness? And although the individuality of the chief generally impresses itself somewhat, yet with these large departments what I state is only too often the case. A wise man of business distributes responsibility in proper-sized doses amongst his employés, merely reserving to himself or a manager a guiding hand, with oversight. The British Government has consistently pursued the same course, placing every one of its great public buildings either with or without public competition in the hands of a private architect. And, gentlemen, I ask, Has any other plan than this ever been tried and approved of as a better one? A sarcastic friend of mine put the position of the colonial States and their building departments in somewhat these words :— "Government work will grow and grow, embodying function after function of the public needs, till the few remaining duties of the private architect call for so little ability that, like the legs of the snake, he disappears ultimately from sheer desuetude."

We in South Australia have certainly been trying a host of highly experimental works for the State. Wine depôts, river settlements, State pumps, State freezing works, State cyanide works and a host of others. We must really be a much more solvent province than is usually placed to our credit to stand such finely-conceived projects for our benefit. When a State department has been in use for a few years some one will always be found to question its economical working. Then the head of it rises to the occasion and tells a patient public that he is doing for some 2½ or 3½ per cent. or such-like rate exactly what —if not better than—a private architect would charge 5 per cent. for. But you will never have a chance to check his figures. He probably pays no rent, debits nothing for cleaning, caretaking, water, city rates, sewer rates, has his postage carried free, gets free railway passes—not to mention being an "invited guest" at such functions as those we have been seeing in Sydney—and, as with us in South Australia, even saves the cost of clerks of works by using police constables to act as such where desired. When I hear of the 3½ per cent. rate I merely long to be the Commissioner of Audit for a few hours. For example, to show the falseness of the comparison, we do one copy of tracings and specification free of cost to the builder, but the State Department does none, throwing such upon the builder himself, thus swelling his tender, and lessening the apparent rate per cent. for professional services. As to the expense of works carried out by the State, we used to hear that they were more cheaply done than we (outside) could do them, but I don't hear so much of that cry nowadays. Recently I was told that a suburban four-roomed cottage had been let at 75*l.* I cannot throw light on this point, for I notice that most of, if not all, the Government works have an intimidating board in front warning off all who have not got an order from the department.

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* A paper read by Mr. A. B. Black before the Conference of Australian Architects, Sydney.

You will remember how the London County Council, some two years back, used to boast that it could beat private contracting out and out. You will recollect how that bladder burst, and how it turned out that a systematic fraud was being perpetrated by handing over free to those jobs upon which a loss arose, materials, &c., from other larger ones which made a profit. We in South Australia are now beginning to do works on this departmental plan. The important waterworks at Clarendon were partially let to a private builder. For causes now unimportant the State itself took over those parts of the works for building the weir at the Onkaparinga river, and did it for less than the contract sum But were the methods adopted so very closely the same? When you make the head of department both contractor and architect, he behaves not so very differently from what a contractor without an architect would do. Blocks of stone very much smaller were put in the wall. Cement was not tested; did it not come from works specially subsidised by the State through a special duty? Sand was never washed, as the builder always had had to wash it—"it was such good sand." Bed backs and side joints of ashlar were "liberally" viewed as to labour involved in dressing, and as to backing up in concrete it was generally substituted for the ashlar specified. Of course a fine profit was made, and the iniquitous builder's methods reprobated. I mention these things, for what is our case to-day will be the contractor's to-morrow. Eliminate the private architect to-day, and the private builder follows. If he wishes to remain as he now is, he must clearly recognise that he is being weighed in the balance; he must manage to let the careless, indifferent man in the street see the truths of the foregoing, and that the Governmental methods now springing up in so many colonies are not so economical as they are claimed to be, because the basis of comparison is grossly unfair.

As to the æsthetic side of the matter, can anyone doubt where the advantages lie? Look at the stereotyped departmental post office, police station, school or court-house and hospital Are our communities to become case-hardened into the Laputa-like belief that such (so-called) art is the best of its kind? It is doubtless a good thing that a building expresses its use somewhat in its appearance, but it is getting into extremes when you know the post office in Borrioboolagah because it is identical with that of every other township. I know it is a difficult matter to settle with so widely ramified a system of government; you must obviously have a good practical man with professional knowledge to look after all existing buildings. He must also have a good staff under him. The difficulty is to keep him from grasping all and sundry new State works He fears that the advent of any good architect into State employment for some large new building may tend to supplant him. So he tries to keep all such in his hands. When in South Australia some sixteen years ago the former architect-in-chief was retrenched, and a very able man held the office then, his place was filled by a "superintendent of public buildings," a very much smaller position. The distinct agreement of the Government of that day was that every new job costing over 5,000*l* was to be competed for publicly and given to the "outside" winner; there have been about sixty such new jobs since then, varying from 5,000*l.* to 35,000*l.*, but every one has been rigidly grabbed by the holder of the office in flagrant and dishonest breach of the distinct promise of the Government which appointed him; a promise twice clearly ratified and as often neglected in the ratification since.

In South Australia we have nothing to gain and nothing to lose by political influence in this matter. Politicians who gain portfolios are very pliable in the hands of a persistent and firm head of a department. His attention is never directed to former Ministerial promises till too late When we outside hear of a work coming inside the scheduled amount, it is always found that some special reasons exist for letting the S. of P. Buildings carry it out. The reasons so far given are these:—1. Schools and post office—so simple, know all about them. 2. Hospitals—so difficult, must get a specialist professor from Melbourne to confer with me. 3. Asylums—not a nice place to have private architects about any such place (wish I could put them all there though), this *sotto voce.* 4. New art gallery. Rather awkward to give a reason, but luckily labour members want work for men out of work; so get out plans in haste for foundations and so tie up the job at once. 5. School of mines. Largely aided by private donor of more than half the cost amount; so tied this job up nicely by taking him and Ministerial head round to the other colonies in order to go one better than them.

For myself, I hope for little or nothing in the future as regards my own colony's works. Twenty years ago a good stand in favour of private enterprise as against the Socialistic fallacy could have been made. Fallacy—because it forgets that each one of us is a not unimportant unit in the Commonwealth, with all his rights as to a share in the duties and emoluments of all public works. Such ought not to be kept as a source of profit for one small class alone. Starve our profession and one of the sources of governmental funds will fail you. We are, in an exact and literal sense, a part of the State —the very State itself. If these works are to be always kept from us, *in toto*, let it be clearly remembered that Australia cannot be kept a ring fence. The best market for brains will always attract the best in the long run. How is it, do you think, that when we want good advice on some great vital matter, perhaps harbours, waterworks, electric trams, we have to pay for an expert's visit a sum which would well maintain a man of his calibre for years here? Does America ever have to confess to so humiliating a confession of incompetence? We starve down the budding intelligences of our rising men by the red tapeism of the bureaucratic method, and having rendered them useless for more than services so specialised and restricted that any junior at 4*l.* or 5*l* a week could do them well, we pay exorbitant sums in order to confess the poverty of our land in such ways. But I still think much can be done with our new Commonwealth Gather together all the members of the profession and represent to the Federal authority some clear exposition of our views, embodying a scheme practical and business-like, and then we may confidently expect sympathy from the Parliament to meet in Melbourne in a few months. Show them how, as in England, they can best secure beauty, variety and economy by employing private practitioners, keeping most stringently to a definite rule that an effective federal department shall exist solely to look after repairs of old works and to act as intermediary between Government and architect.

GLASGOW TECHNICAL COLLEGE.

THE usual meeting of the Architectural Craftsmen's Society was held on Friday, 22nd inst., when papers were read by Mr. Robt. Stuart, of Herbertson & Sons, wrights, and Mr. Wm. H. Baxter, on the subject of "Temporary Carpenter Work." Mr. Stuart treated of the construction of "Crane Seats and Gabbert Scaffolds." With regard to crane towers he advocated that the centre tower which contains the mast should be 14 feet square instead of 10 or 12 feet, to insure there being as little overhang of the crane as possible, and the mast, he was of opinion, should be in two or three thicknesses well banded and bolted together. As to gabbert scaffolding, care should be taken that there be sufficient space provided between the timbers and the wall, in order that in the slight swaying which takes place no injury be done to the stone or brickwork. Little or no nails should be used in the fixing of scaffold timbers, as they entail great difficulty and danger to workmen in the taking down, bolts being used in all cases for this purpose. Mr Baxter, in the course of his remarks, which were confined to "Temporary Stand" construction, made apt reference to the Glasgow Exhibition work of this kind, and dealt with numerous types for different conditions and purposes. The lecturer was of opinion that round timber could be used advantageously and with decided artistic effect, Norway poles being cheaper than three thicknesses of battens as commonly used, and with the bark intact could be treated in picturesque fashion with little difficulty. Mr Baxter also dealt minutely with various formulæ for the calculations of strengths of timber supports, and on the motion of the chairman, Mr. Jas McKissack, architect, votes of thanks were heartily accorded the essayists for their thoroughly practical papers.

Mr. Emerson Brooke, borough surveyor of Brighouse, has been appointed city engineer of Lichfield, out of 103 candidates.

NOTES AND COMMENTS.

The annual exhibition of the Royal Society of Painter-Etchers and Engravers is especially interesting owing to the inclusion of etchings by three members of the old Norwich school, viz. CROWE, COTMAN and DANIELL. But on their own merits the works of the Society in the gallery at Pall Mall are well worthy of praise. Mr. A. H. HAIG seems ubiquitous. He has an elaborate interior of Barcelona Cathedral, showing one of the side chapels. His next subject is *On the Somme at Amiens*, the cathedral rising in the immediate background. There is also a view of the Grand Canal, Venice. It is rarely that Mr. HAIG deals with such a subject as *The Star of Bethlehem*, and the artist is not seen to as much advantage as in his architectural plates. Mr. R. SPENCE has some clever illustrations to J. FOX's *Journal*. Mr. D. T. CAMERON, like several of the other artists, has drawn extensively on Venice for his pleasing scenes. M. EUG. BÉJOT has found plenty to interest in his native Paris. M. HELLEU contributes several studies of female heads, which are well worthy of close attention by his English brother-artists. Sir J. C. ROBINSON excels in atmospheric effects; his *Black Country* is a striking representation of the sun endeavouring to break through the unnatural vault of smoke. Architects will be indebted to Mr. A. EVERSHED, who remains faithful to the North of Italy. There is a remarkable *Annunciation*, by Mr. W. W. BURGESS. A building in the background seems to be Norman in style. Winchester does not receive full justice from the artist. Mr. F. BURRIDGE renders very satisfactorily some difficult skies. There is an exceptionally good original mezzotint by Mr. J. FINNIE, whose breadth of handling is well adapted for that class of work. Other examples of mezzotint are contributed by Mr. JOSEPH KNIGHT. *In the Enemy's Country* shows a lion and lioness astonished by the appearance of some daring hunters, and is Mr. H. DICKSEE's only contribution; it is very powerful. On the whole there is more variety than usual in the nineteenth exhibition.

The announcement of the expected purchase by an American millionaire of two fine gates of beaten ironwork, which belonged respectively to Queen ANNE BOLEYN's (so-called) palace at Sunbury, and to Carshalton Park, Surrey, has caused much surprise. In the latter case local interest is aroused. The gates were designed by LEONI, an Italian architect. They are 120 feet long, were finished about 1720, and made for the then owner of Carshalton Park, Sir W. SCAWEN, a noted London merchant, who risked nearly all his property in the cause of WILLIAM III. It seems incredible that we are so lost to the value of such examples that they should be sold to a dealer, and then offered to America. Unless there is more oversight or protest made by antiquaries or local societies, our ancient art work will soon be exhausted, and America will be rich with the treasures which England esteems so little or does not trouble to retain. Such a loss as that at Carshalton would have been lessened by having had copies made in plaster or otherwise, to be kept in the nearest museum, art school, or at South Kensington. These old examples in iron and wood are not so many that we can afford to let them be taken abroad. Insistence has lately been made on having parish registers, or copies of them, deposited in every central town and kept for inspection. Are not the artistic remains of our land as valuable?

When PHILIPPE GILLE was elected to the coveted distinction of a chair in the French Académie des Beaux-Arts there were many people outside France who were surprised at the event. To succeed the Comte DELABORDE, it was assumed the composition of many big volumes was indispensable, and the greater part of the literary work of PHILIPPE GILLE consisted of contributions to journals which quickly charmed and were quickly forgotten. If all his articles on art were collected they would fill many volumes. He was more than an amateur. In his youth he prepared himself to become a sculptor; then he served under Baron HAUSSMANN, and thus acquired a knowledge of architectural projects and their realisation. When it was decided to have an illustrated history of Versailles on a grand scale PHILIPPE GILLE was selected to undertake the task, and he was also commissioned to write the report on the sculpture in the International Exhibition of 1900. Like so many French writers, he was attracted towards the theatre, and he co-operated in the production of several comic operas, comedies and dramas. During the last four months of his life he was the saddest of spectacles for his family and friends. One evening in November, while dining at home with M. GÉRÔME and M. DETAILLE as his guests, he was suddenly seized with paralysis, and was deprived not only of muscular power, but of speech. While in this condition he was yet conscious of the extent of the catastrophe, and so remained until a superadded attack of congestion of the lungs brought deliverance to one of the most brilliant, thoughtful and studious journalists of Paris.

We gave a list of the students of architecture who are to compete in the second stage for the "American Academy on the banks of the Seine at Auteuil," which is the subject assigned this year for the Prix de Rome. The task entails four days' seclusion, including three nights' repose on a small folding bed, for once a competitor enters his *loge* he is not allowed to leave until he has made his sketch design. His food is supplied to him through a small wicket, and the official restaurateur takes care nothing is conveyed which is contrary to the regulations. The architects have to endure more than painters or sculptors, whose sojourn within the confined area of the *loges* is limited to thirty-six hours.

When Mr. BATSFORD announces that he paid 56*l.* for the copy of "The Works in Architecture by ROBERT and JAMES ADAM," of which he sells a facsimile for 30*s.*, he has done what is most effectual to insure the sale of his production. In auction-rooms the original work is likely always to be more prized than the reproduction; but for all those who wish to turn ADAM's plates to profitable use the latter is as serviceable, although the price is only about the fortieth part of the engraved plates. Thirty large folio plates are given, and they show the application of the Adamitic style not only to buildings, but to works in metal, wood, marble, plaster, &c. The style may be open to many objections; but it exercised a great influence when it was produced, and it is still effectual. ROBERT ADAM interpreted Classic work according to his lights, but it would be difficult to find precedents for what he did in Greek examples. Much of his ornament is manifestly suggested by the Loggia in the Vatican, which was painted by RAPHAEL and his assistants. The Italians were supposed to have been inspired by what was seen in their day in the Baths of Titus, but as the fragments have disappeared we can no longer test the extent of the indebtedness of the Vatican painters. It is not altogether impossible that, although arrived at second-hand, ADAM's work may have as much if not more affinity with the old Roman ornament. The Scottish architect could not escape from the influence of his time, and his over refined decoration was not out of place in rooms where POPE's "Homer" was considered superior to the original, and where CIPRIANI's drawings were admired because of their Classic character. The ADAM style exercised an influence over pottery and goldsmith's work, and it is still respected by many for its elegance. It requires much delicacy from all who care to imitate it, and it does not lend itself easily to mechanical reproduction. As it is of use, there is an advantage in being able to possess so many exquisite plates at so moderate a price.

ILLUSTRATIONS

COLLINGHAM GARDENS, W.

CATHEDRAL SERIES.—YORK MINSTER: THE CHOIR, TO ORGAN SCREEN.

31-39 NEWHALL STREET, BIRMINGHAM.

ST MATTHEW'S, CHAPEL ALLERTON NEAR LEEDS. THE SCREEN.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening, the 5th inst, Mr. W. H. Seth-Smith, president, in the chair.

Messrs. R. H. Murray and C. R. Pinsent were elected members.

Votes of thanks were passed by acclamation to Mr. J. F. Bentley for permitting members to visit Westminster Cathedral on February 16, to Mr. F. B. Wade for allowing a visit to the School of Art Needlework on March 2, and to Messrs Broadwood & Sons for arranging the Pianoforte Exhibition on March 9.

Mr. H. B. MEASURES read the following paper on

Rowton Houses.

Time will not permit of a detailed description of each Rowton House; I therefore propose to describe the house at Newington Butts, containing as it does practically all the essential features of a building of this description, and, moreover, because the site is one which both in frontage, depth and general disposition is as near as possible an ideal site for the purpose of providing accommodation for 800 men.

It is situated in a very crowded neighbourhood, frequented by the class of men who have in the past had to crowd into small houses as the lodger, or go to a common lodging-house, with all its degrading surroundings. For the workman the position is one affording exceptional facilities for access to the heart of London, consequent upon the proximity of railways, including the South London and the tram and 'bus routes in all directions.

The site has a frontage of 214 feet overlooking a well-laid-out public recreation-ground, the site of the disused churchyard of St. Mary, Newington, and is approached by a wide footway from Newington Butts The depth of the site from front to back is an average of 138 feet.

The building is set back from the forecourt railing a distance of 10 feet, and as the ground-floor is 4 feet above paving, ample light is obtained for that portion of basement which is on the front of the building; at the back the main building is set back a distance of 25 feet from the boundary. This gives a considerable space for light and air, whatever the adjoining owners may hereafter do on their land and, in addition, the dimension just enables the building to be erected to a height without coming within the Building Act angle of 63½ degs.

The central courtyard above ground floor has a width of 58 feet 6 inches; this is wider than I have been able to obtain at either Calthorpe Street or Whitechapel, the latter being 49 feet 6 inches wide, which I consider gives ample width, but is not so convenient for planning the ground-floor rooms as a width of, say, 60 feet. You will note that in all the plans the plan of cubicle floor is based upon an elongated letter U, this I consider to be the most satisfactory form for planning and preferable to an enclosed quadrangle; with the latter it may be possible to produce a large central staircase. The shape adopted gives an abundance of light, sunlight and fresh air into the courtyards, and lends itself to the disposition of staircases at the extremity of each arm. I need hardly point out to you that with the staircases planned as on all the drawings before you, it is impossible for a man to be trapped in the event of fire, a thing that is likely to happen with a central staircase unless panic stairs are provided—these are expensive and would probably be overlooked in case of need.

The elevations are built in pressed Leicester bricks and mingled gaults, and the dressings in pinky buff terra-cotta. The whole of the interior walling is built with gault bricks, excepting where glazed brickwork is used. The brickwork throughout the building is in Portland cement.

The floors are breeze with steel joists, the breeze covering the underside of joists 2½ inches, the top screeded over joists for flooring

The front roof is constructed of breeze slabs 4 inches thick, with angle irons therein, and the slating nailed direct on to the slabs; all other roofs are flat, of breeze and steel construction, covered with asphalte.

For administrative purposes the house is divided into five sections as follows:—(1) Lodgers' dayrooms; (2) lodgers' cubicles; (3) catering section, which includes sleeping accommodation for females employed in shop, kitchen and scullery; (4) bed-makers; (5) superintendent's apartments, with separate accommodation for the office clerk.

If you will allow me for the purposes of this paper, I will assume that you are accompanying me upon a tour of inspection, following very much the course that a lodger would take. On entering the building, an office is provided in the vestibule. Here the lodger makes application for a bed ticket, for which he is charged sixpence; this frees him to the use of all the day-rooms of the house and separate sleeping accommodation for one night. If he desires to do so, an opportunity is allowed him of renewing his bed ticket up to 9 o'clock at night, before which hour no new lodgers are booked, or he may take a bed by payment of 3*s* 6*d*. for a week. A lodger can renew his cubicle from day to day, or by the week, so that he has the exclusive use of it. The office front and fittings in same are in polished teak, and a safe is provided for the custody of any valuables or money given in charge of the clerk. Opposite the office window turnstiles are fixed; they serve as a "moral barrier," it being impossible to use them for checking purposes, as the lodgers are in and out of the building at all times. The space beyond the vestibule is a provision not only to give room where there is much traffic, but in addition to give sitting accommodation in what is a favourite place with the lodgers to watch the arrivals. These spaces and the corridors leading from them past all the day-rooms to the two cubicle and basement staircases have glazed brick walls from floor to ceiling, with a dado in chocolate and cream coloured bricks and ivory above. The floor is cement and granite chippings. Water for drinking is laid on to point shown on plans.

The dining-room has a floor space of 5,300 feet, and seating accommodation is provided for 440 men at tables; a number of extra seats and wooden easy chairs are placed in the room. The walls have a glazed-brick dado in chocolate and cream 4 feet 9 inches high, with plastering above distempered to tint. The floor is of oak blocks laid herring-bone. The tables and seats are teak, carried on cast-iron standards, the length being 7 feet, giving a provision for eight at each table. Four large cooking ranges, with ovens, hot plates and grilles are provided. These you will note are placed out of the line of traffic, and are built into glazed-brick chimney-breasts from floor to ceiling; this is necessary, as plaster work becomes discoloured in a very short period.

The portion of dining-room between the front and back wings is, in addition to windows, top-lighted and ventilated by four lantern lights, the whole of side-lights in which open for ventilation; in addition, all the windows are hinge-hung to fall in above transoms and casement-hung below, the latter being secured by a latch, and usually only opened for cleaning purposes; ventilation flues are also provided in walls.

A lodger may purchase cooked or uncooked food at the shop, or he is at liberty to bring his own purchases from outside and have the free use of the ranges, cooking utensils and lodgers' scullery for the preparation of such food. The walls are hung with framed engravings of many popular pictures, a feature in the furnishing which appears to be much appreciated. Between the two large sections of the dining-room a lodgers' scullery is provided, with walls built in glazed brickwork from floor to ceiling, fitted up with glazed fireclay sinks and teak draining boards. Sanitary pails are under each sink for the reception of potato peelings, tea leaves, &c.; hot and cold water is carried to each sink, and, in addition, a supply of boiling water is provided for tea-making, &c. The scullery is an essential, as otherwise the dining-rooms would be used for this purpose.

The crockery and service-room, between the dining and smoking-rooms is built in glazed brickwork from floor to ceiling, and fitted up with shelving. This is provided for those who cook their own food, and is furnished with pots, frying-pans, teapots, plates, cups and saucers, which are at the lodger's service, and which he leaves where used by him, to be collected by porters, who send them down the lift to basement scullery.

The shop has a teak front with sliding sashes, and is fitted up with counters in teak, hot plates, urns and drawers and shelving for the varied assortment of articles sold. A tobacco license is held. The prices charged are practically what would be paid outside at a coffee-house. The lift delivers into a service lobby outside kitchen and also into the scullery on basement, and the staircase gives access to same.

The smoking-room is approached from corridor and from dining-room. The floor space is 1,600 feet, and is fitted up and finished in a manner corresponding with dining-room; the seating at tables is for 112, with an additional seating accommodation in wooden easy chairs. The chimneypieces are in glazed faïence, and large open fires are maintained. Although this room is called the smoking-room smoking is allowed in any portion of the building used by lodgers during the day. This room is at times of pressure—say on Sundays—used as an overflow dining-room, with service from shop.

At the back of building is the reading-room. This is an L-shaped room with an area of 2,550 feet; the walls have glazed brick dado with plastering above, as in dining-room, the chimneypieces in glazed faïence. Seats at tables provide for about 170 men, and a large number of easy chairs are provided around the fireplaces. It is very seldom that one can visit the house without finding each fireplace with its semicircle of men reading, talking or having a nap. In all these rooms the doors are set into a recessed lobby; this allows them to open outwards without projecting into the corridor, and in addition it is possible for the superintendent to obtain a view of the room while standing in this lobby to see that order is maintained.

The walls are hung with pictures, and two large teak bookcases filled with the works of a variety of authors are provided. Books are lent to lodgers on application to the superintendent. Games, such as draughts, dominoes, &c., are placed in the room.

Adjoining the dining-room are locker corridors. The position assigned to these is the most convenient where planning will permit, as they are used for storage of food to a great extent. In the house under notice they are 1 foot 6 inches cube, with a shelf dividing into two parts. Of these lockers there is a provision of 800; they are arranged in tiers four in height, and each locker is ventilated and numbered and has a separate key. Above these lockers a number of larger lockers of double the cubic capacity are provided for those who require additional space. Provision is made in them for a stick or umbrella, and a shelf similar to the smaller lockers. The charge for a small locker or a large is 6*d.* and 1*s.* respectively, and upon the return of key 5*d.* and 10*d.* respectively is returned, which to a regular lodger is to all intents a charge of 1*d.* or 2*d.* for a year or more. In the locker corridors small tables are placed against the piers for brushing or sorting articles in lockers. The corridors are lighted and ventilated at ends by windows, in addition to top lighting and ventilation.

The water-closets and urinals for day use are placed at the rear of building, and are disconnected from it by a ventilated lobby. The walls, partition walls and divisions to urinals are all ivory glazed brickwork. The roof over is in lantern form, glazed from end to end in T-iron bars, with vertical pivoted louvres. There are forty-one water-closets, being a provision of one for every twenty men. The division and front walls are 6 feet 3 inches high with a moulded capping and open above; each water-closet is fitted with a flushing cistern, having an iron supply pipe to pan. The pan and trap used are of the short hopper type, or glazed brick "soap size" is used for risers, and the whole of the space inside same, around pan and trap up to the top of pan, is filled in solid with cement concrete. This is found to be a perfectly effective means of avoiding breakages, wilful or otherwise. The seats are teak, bedded and screwed down on to the concrete. The doors are kept up 3 inches above floor for ventilation. The door stops and the hinges are slightly out of the perpendicular, the effect of which arrangement is that, excepting when the door is bolted, it automatically opens back on to the division wall, and by that means a lodger is always able to find which water-closets are unoccupied. The door frames are dowelled down to 3-inch cement base blocks. The floor of water-closets is laid with a fall towards door, and constructed in concrete with granite chippings. The urinals are white glazed fireclay backs, finished on the front edge with 9-inch double bull-nose divisional piers, which are carried to a height of 5 feet. The top of urinal backs is covered down with slate overlapping copper sparge pipe with automatic flushing. This mode of construction has been found to stand, undamaged, the hard wear in each house. Adjoining these water-closets, near the foot of main staircase, a room is provided for fumigating bedding or other articles.

At the extreme end of back corridor a staircase is constructed, giving access to the roof over the portion of ground-floor rooms within the centre courtyard; this roof is at first-floor level and is paved with asphalte, fenced in and provided with seats as an open-air lounge and smoking space; it appears to be a much appreciated feature.

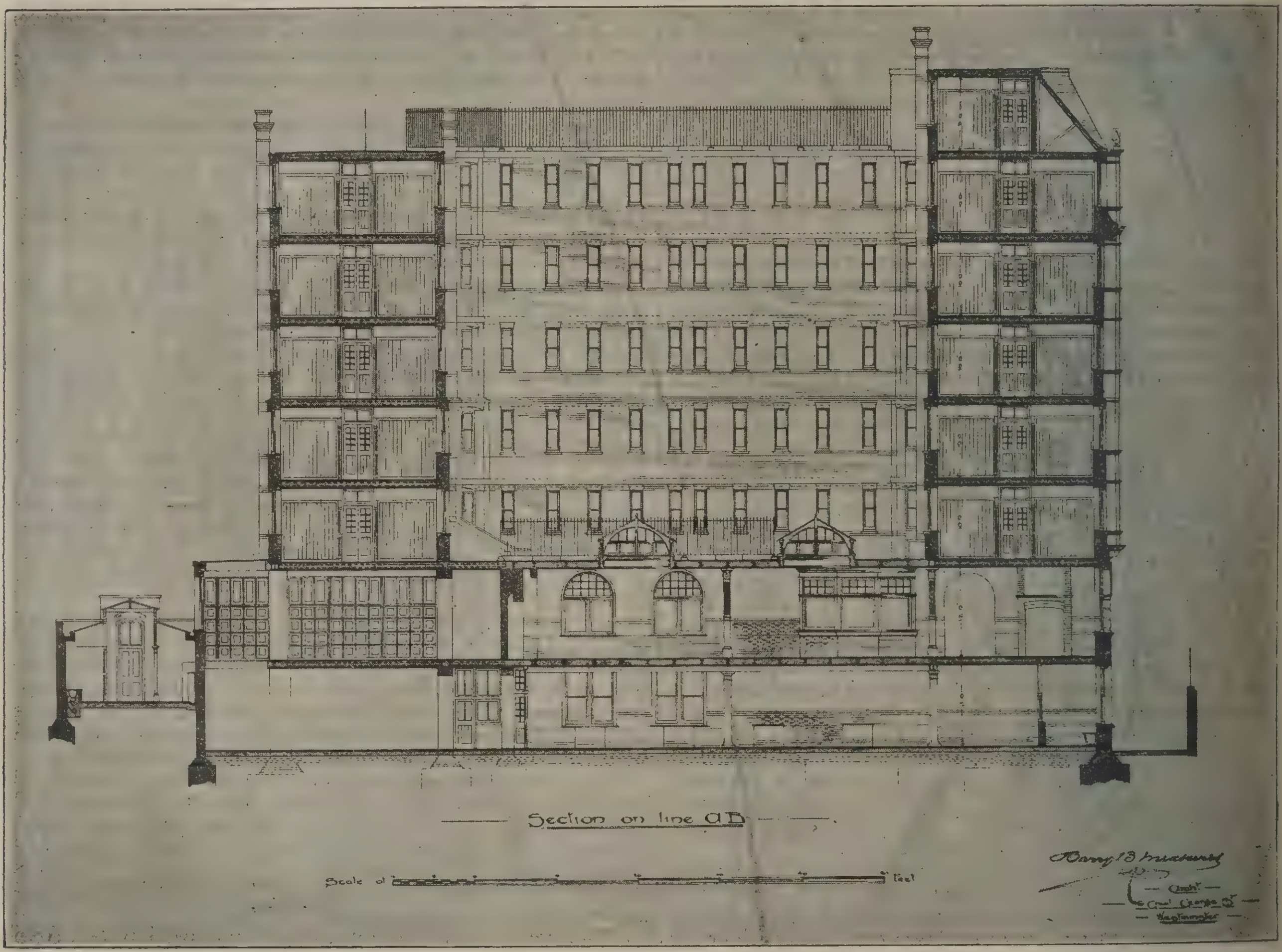
Basement.

The two main staircases are continued down at the end of ground-floor corridors to the basement; a corridor leads from each into the lavatory. In passing I might say that the whole of the basement, where used by the lodgers, is built in glazed brickwork from floor to ceiling, and all the floors are cement concrete finished in cement and granite chippings.

The lavatory has a dado in French grey and ivory, with ivory above.

There are eighty basins fitted with hot and cold wat supply, the construction being as follows:—Each set of ten carried on three divisional walls with angle-iron bearers to carry slate top; the basins are white enamelled fireclay, with outer rim bearing on iron bar on edge, bearers shaped to basin and bolted to outer angle-irons. Immediately under the slate top two horizontal water-pipes, hot and cold, are carried from rising mains, on main walls, through to end division, with a plug for clearing in the event of a stoppage; branches rise vertically to gun-metal screw-down cocks. Iron waste-pipes are used, discharging over channel in floor; for basins, loose turned wood plugs are used. The floor is laid with falls to the channels under these lavatories. Towel rails are fitted at ends of ranges and on walls with round towels supplied thereto. Central over each range of basins and running longitudinally a hat and coat rail is fixed.

A portion of lavatory is screened off by a glazed screen and fitted up with white glazed fireclay feet washing baths, with teak draining boards between each. Hot and cold water is carried to each, and the wastes discharge over a channel similar to the lavatories. I consider this room to be a great boon to the men, and it is much used by them. Towels are provided. In the front corridor leading from lavatory to the foot of main staircase there are bath and dressing-rooms; the walls are divisional walls 6 feet 6 inches high, in glazed work,

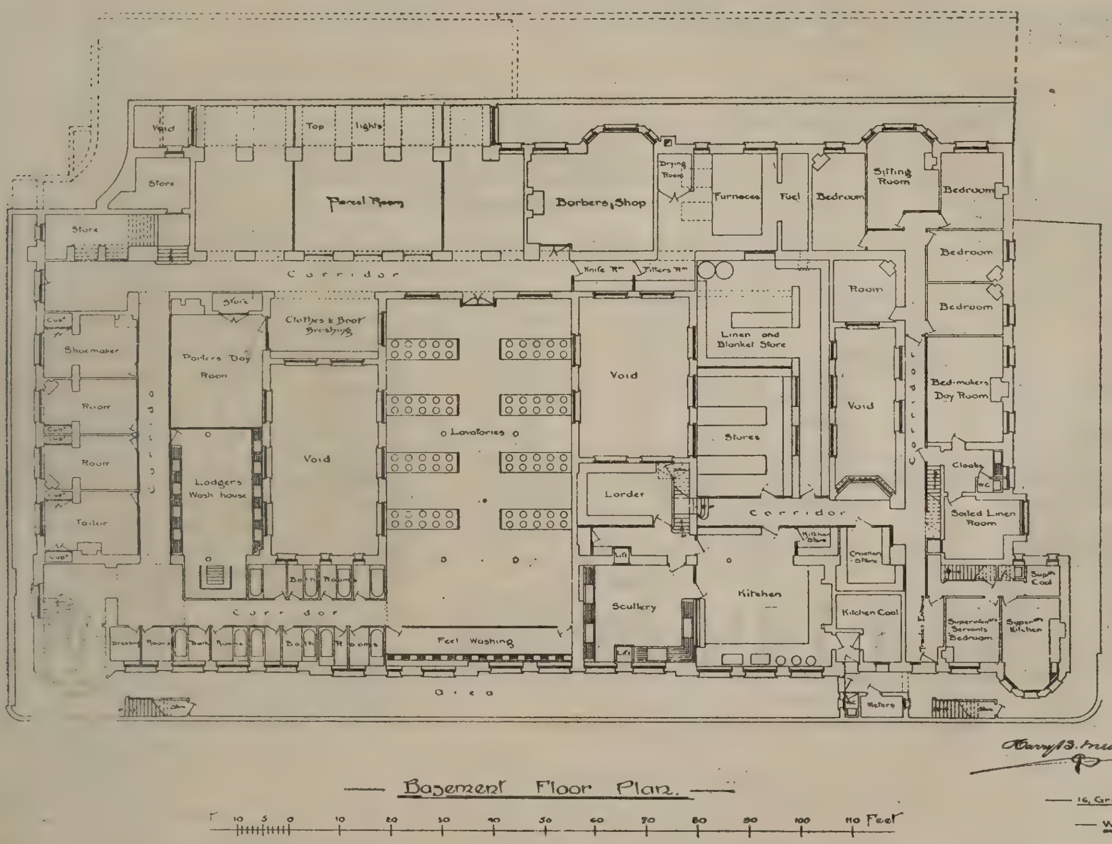


and the baths are white glazed fireclay, with a riser of glazed brickwork and finished with a teak top. I might mention here that baths uncased were tried in the first house, but the space around them next to the walls too often proved a receptacle for discarded underwear. Hot and cold water is laid on to each bath. A lodger pays 1*d.* for a bath ticket, which includes soap and towel; the water is turned into bath by the attendant. A chair completes the furnishing of bathrooms.

The dressing-rooms are to all intents and purposes as bathrooms, minus the bath. As no lodger is allowed in his cubicle during the daytime, it was considered and found to be necessary to provide accommodation to enable him to change his garments.

In the corridor connecting front and back staircase is a room described as "the lodgers' washhouse." Here, and particularly on Sunday, many wash the whole of their wardrobe of underwear, for which purpose white glazed fireclay washing-troughs are fixed on walls, with hot and cold water supply and draining boards. A wringer is part of the equipment, with tables for the folding or sorting of garments. A Gill stove, surrounded by a galvanised iron framework clothes-horse, is used for drying. In the same corridor, adjoining the lodgers' washhouse, is the porter's day-room. This is fitted with lockers' tables and easy chairs for the officials' use during their leisure and at meal times. On the opposite side of corridor two rooms are allotted to a repairing shoemaker and a tailor, who find constant employment from the lodgers. Returning to the main back corridor, is a space between porter's room and lavatory; this is used as a boot-cleaning and clothes-brushing space, tables and foot-rests being placed therein. Opposite this space is another partly in use, the unused portion being a provision for extra locker accommodation, that in use being a parcel room. A lodger with tools, boxes or other belongings too large for lockers can, by payment of a small fee, store them here, and have access, in company with an official, from time to time. The barber's shop is fitted up for the purpose, and provides constant employment for a barber. The knife-cleaning room and the fitter's room adjoin, the latter being fitted with vice, &c., for minor repairs.

—— Rowton House Newington Butts S.E. ——



—— Basement Floor Plan. ——

Harry B. Measures
— Archt. —
— 16, Great George St. —
— Westminster. —

In the furnace-room two boilers supply the whole of the hot water used by lodgers for lavatories, baths, &c.; these are connected to two cylinders, each of 250 gallons capacity, placed in linen and blanket store. A drying-room, fitted with galvanised iron frame-work, is built upon the setting of boilers, and utilises waste heat for drying purposes.

In the passage outside, at left end of buildings, all ashes and refuse from day-rooms is placed in sanitary pails for removal by authorities by the steps shown in area. All area walls and voids are in glazed brickwork.

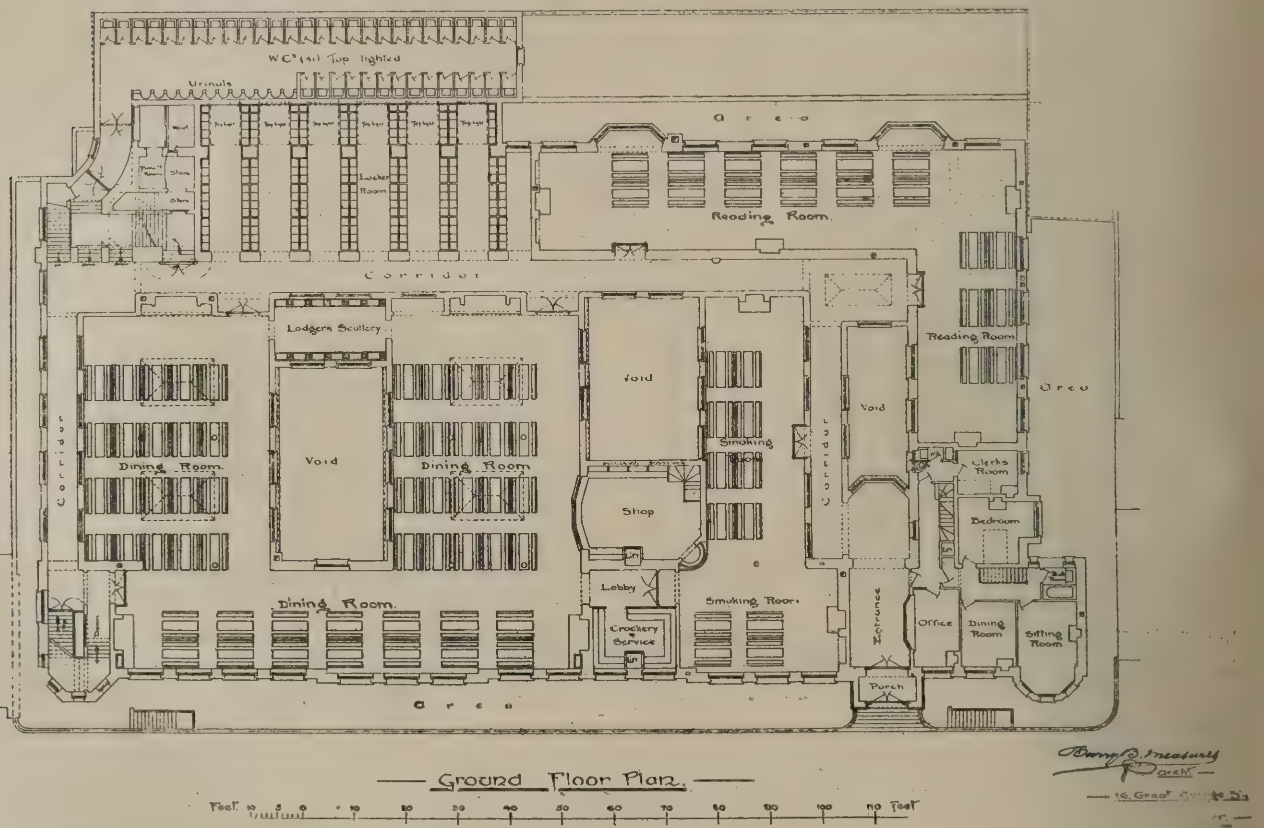
Section 2.—Cubicle Floors.

Returning to the ground floor of building are the two main staircases giving access to the cubicle floors; these are carried up the full height of building, with steps of a uniform width of 4 feet 6 inches to the flat roofs at top, where a gangway is railed in from one staircase to the other, enabling lodgers in case of fire to ascend one staircase and descend by the other. The staircase is built in ivory glazed brickwork the full height, and the steps are formed of Portland cement with two angle-irons in each; the balusters and handrail are wrought-iron. On each landing, approached by a door off same, is a sink space with hot-water supply for cleaning purposes and cold for drinking carried to a glazed fireclay sink. On each side of sink space a water-closet is formed, constructed as those previously mentioned, for night use only. There is a fire hose cupboard, fitted with hose-piping and nozzle, the corresponding cupboard opposite being used for storage of brooms, &c., for cleaning of cubicles.

Taking the cubicle floor as a general scheme you will observe that it consists of a central corridor 4 feet wide, extending around the U-shaped building from staircase to staircase. It is divided by partition walls into sections, varying (according to convenience in planning) from twelve to sixteen cubicles in each. Where possible I endeavour to plan in sections of sixteen, for a reason which I will explain when dealing with lighting; among other reasons for the subdivision of cubicle floors into sections are the checking and possible isolation of an outbreak of fire; another advantage is that in a case of infectious or contagious disease the isolation and efficient disinfection can be arranged without closing the whole of one floor of cubicles. Swing doors between each section conduce to quietness between each section; fanlights over these open for ventilation. The flooring is yellow, nailed direct upon the screeded breeze floor. The staircase admits of the women bed-makers obtaining access to the various floors without passing through any of the lodgers' day rooms. The space where staircase is shown on first floor is occupied on all the other floors by a linen room, with lift from clean and soiled linen rooms in basement. This is placed as near centre of cubicle corridors as possible to avoid labour in carrying. On each floor, including one on each staircase, there are five fitted fire-hose boxes, with glass panel in door for access to bolt.

A typical section of cubicles is planned eight on each side of corridor, handed right and left. This method of handing from the centre is one that I consider most essential; it enables each bed to be against a cubicle partition, on the other side of which is the passage space of the next cubicle, and not the bed; any reversal of this arrangement means that sleeping next to restless or noisy sleeper would be a most unpleasant experience. Every cubicle in the building has its own window opposite the door, leaving a pier against the head of sleeper. Those of you who have had the misfortune to sleep with the head immediately under the chilled atmosphere at a window will realise that this is not a small point in planning. The windows all have a high bottom bead, permitting the raising of sash for ventilation at meeting rails, and the sashes are double hung and of a uniform width of 1 foot 6 inches in the brickwork, carried up to within a few inches of ceiling. The framing for cubicle partitions is 3-inch chamfered frames filled in with $1\frac{1}{8}$ V-jointed and tongued boarding, painted to a cream shade and twice varnished. The cross partitions are 7 feet 6 inches high, and the partition next corridor 6 feet 6 inches high; the height of cubicle floors from floor to ceiling is 9 feet. The door of cubicle is kept up 2 inches above floor for ventilation, and has a bow handle outside and bolt inside. At the foot of bed three hat and clothes hooks are fixed, with a shelf projecting over and covering same, making it impossible for garments to be lifted off hooks over the partitions at night by other lodgers (a necessary safeguard). The cubicles are, excepting where breaks on elevations increase their length, uniform in size throughout the building, the minimum standard of 5 feet wide by 6 feet 6 inches being adopted; the beds are 6 feet 3 inches by 2 feet 6 inches over all, the space at the end next corridor permitting the drawing out of bed for making and the hanging of clothes on pegs; the minimum floor space of each cubicle is therefore 37 feet 6 inches, and the cube air space taking half the corridor for each cubicle is a minimum of 427 feet 6 inches. I may add here that to provide for ventilation, independent of the windows in cubicles, which the occupants may keep closed, windows are planned at the end of corridors, and these, the fanlights over swing doors and the staircase windows, enable the officials to let a current of fresh air through the various sections. With reference to the cubicle partitions, I have had various opinions from architectural friends as to the material used, some advocating one material and others another. I can but give the result of experience extending over seven years' use of these partitions, and it is, that although there have been several attempts to set them on fire by setting a light to the bedding, they have charred only; they are not troublesome in dealing with an occasional case of vermin. I have been surprised myself to find that they are free of carving or writing, and that any damage by the shifting of bed has been of the nature of an indentation of the surface only; whereas, where plaster is used on the external and other walls damage is done which is not easy to make good. While speaking on this matter I would claim your indulgence, when viewing a Rowton House outside, for the regularity of windows and piers. I have told you my reasons for the arrangement of windows and piers so far as they affect the sleeper. From time to time I am asked, Why don't you group your windows? If I yield to that temptation, then the sleeper has to pay the penalty for the sake of my elevation. Personally, I think the sleeper comes first and that my elevation should truthfully proclaim it. On the top floor of building, at the back of sloping roof, you will notice a row of cubicles. These are on one side of corridor only (excepting in gables, where they are on both), and the dormers on front are a provision for cross ventilation. On each floor two rooms are reserved for officials, who sleep there and are responsible for order. They are fitted as small bedrooms, and the space from top of partitions to ceiling is glazed for privacy. The staircases are lighted by a point on transom of door leading to sink space. This gives in addition sufficient light into sink space and water-closets through glazing of fanlights and doors. Taking a typical section of sixteen cubicles, two gas points are sufficient for lighting. Each is set opposite the second cubicle partition from door and thus lights four on each side. There is not sufficient light for reading in bed, but ample for undressing.

— Rowton House Newington Butts S.E. —



— Ground Floor Plan. —

The gas points on staircases and at points in ground-floor corridors are alight all night, and in addition at the change of direction in corridors on cubicle floors a point is also alight all night that a lodger may be able to find his way out at any time. The other gas points are controlled from the office when necessary.

The furniture of a cubicle consists of an iron bedstead, spring mattress, a mattress cover, a horsehair mattress and pillow, two twill sheets, a blanket under same and any reasonable number over, with a quilt, a wooden chair and a chamber utensil.

A lodger can go to bed at any time after seven o'clock by presenting his ticket to an official at the foot of one of the staircases. One staircase only is generally used and found sufficient. He then finds on each floor direction-boards giving the numbers of cubicles on that floor. Wrought-iron gates bar access to the cubicles during the day, and at night, except by passing an official, these gates are secured by a weak chain and padlock, which the weight of one man will easily break. It is found to answer its purpose as a moral barrier, and its weakness removes possible danger in case of fire. No lodger is allowed to remain in a cubicle after nine o'clock in the morning, at which hour the bed-makers take possession of the various floors.

Section 3.—Catering Department.

The whole of this department is placed in the basement, and is accessible only by way of the tradesmen's entrance, by passing through the office lobby, or from the superintendent's private residence. The kitchen is built in glazed work from floor to ceiling, and has a wood-block floor, excepting where cooking apparatus is fixed, where red adamantine tiling is laid. In addition to a large range, steam and gas-cooking apparatus is provided; a kitchen store is provided for cooks' use and dwarf cupboards and dressers. Adjoining is the scullery, built in glazed work, with cement floor, fitted with large white glazed fireclay and teak sinks with draining boards and a large range of plate-racks. A lift from here opens into the lodgers' crockery store above and another into the shop. The larder, the walls of which are tiled, is disconnected from the kitchen by a service passage (in which is placed the lift for kitchen and larger service to shop), slate and other shelving is fitted up in same. A staircase from shop, constructed in teak, gives access to service lobby, and also to the corridor to stores and female staff-rooms. A store is provided for storage of spare crockery. The large store-room adjoining this corridor is for groceries and provisions generally; it is fitted with flour, sugar and other bins and shelving. The linen and blanket store has the hot-water cylinders therein, as previously mentioned, and is fitted from floor to ceiling with racks for storage; in the passage portion of the store a bench extends in front of windows for the purpose of sorting linen, &c.; this is then despatched by lift in corridor to the upper floors. Kitchen coals, meter-room and water-closet for catering staff is provided. The staff sleeps on the premises under the reading-room, and has a sitting-room and five bedrooms; the walls of these are plastered, papered and furnished with pictures, and the floors are wood block. A private door at basement level enables the superintendent's wife to obtain access for supervision.

Section 4.—Bed-makers.

The bed-makers are not resident upon the premises; they enter the building by the door at side of office and descend to their room in basement by a staircase in full view of the office; this staircase is carried up, as previously mentioned, to the first floor of cubicles. A room known as the bed-makers' room is provided at the foot of stairs, fitted with a small range for preparation of their meals, table and chairs. Adjoining this room is a cloakroom, fitted with sink, and a water-closet opening out of same; a door gives access to the soiled linen-room, which is built in glazed brickwork from floor to ceiling, and has a cement floor. The lift delivers from all cubicle floors into here, and the dirty linen is checked into baskets and taken direct away to laundry. Having given you a somewhat detailed description of what I have termed an ideal site, I now propose, I trust without wearying you, to describe in a general manner the three other houses, of which drawings are before you. Taking them in their order of erection you will thus the better judge where experience has dictated alterations of the general scheme.

King's Cross House.

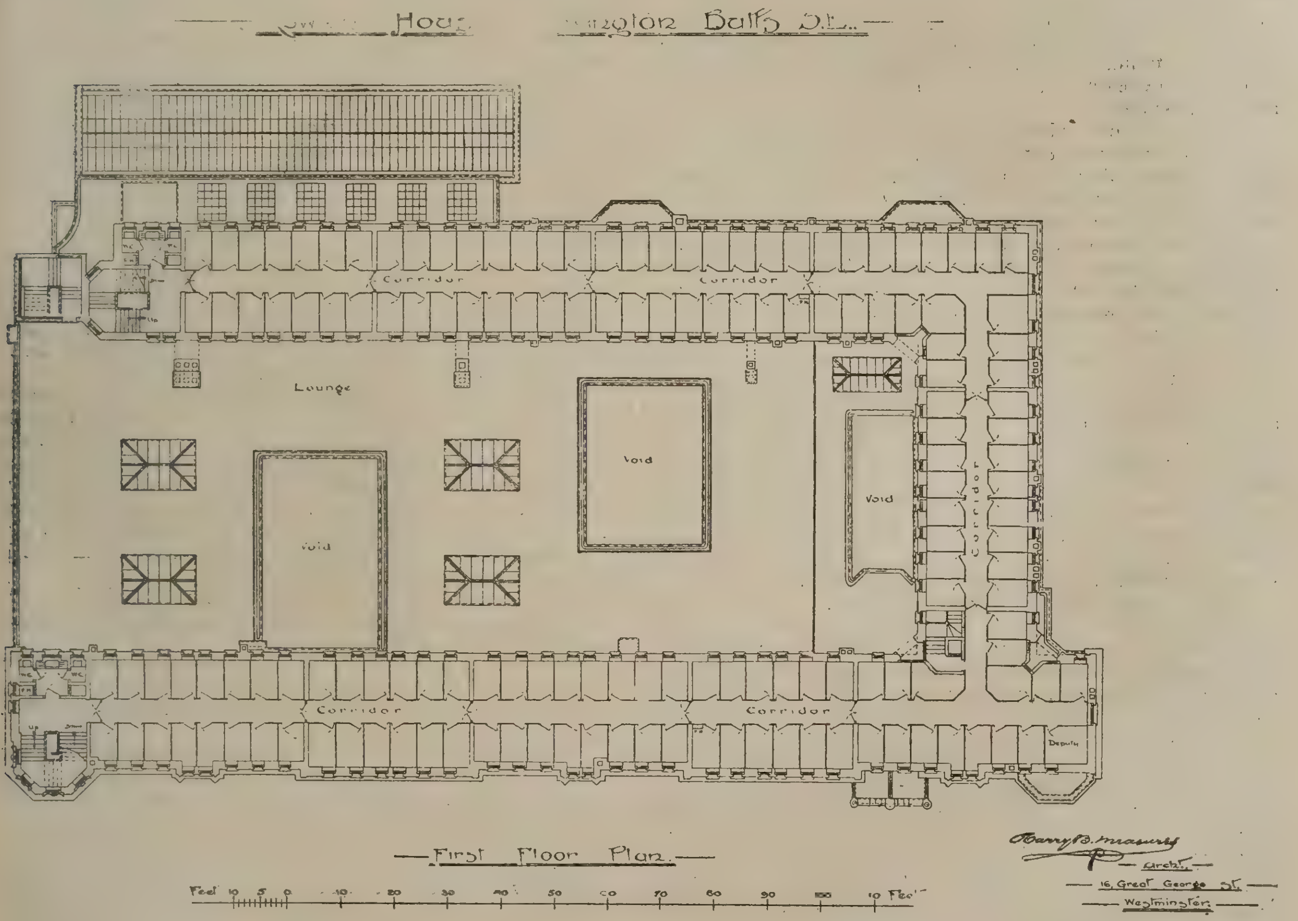
This is erected upon a site which presented a good many problems in planning. It had quite a fair share of troublesome angles, added to which the paving around has a rise of 8 feet from the entrance to the staircase end of the frontage in Calthorpe Street. In consequence, the basement floor is at a level varying from 8 feet to 16 feet below paving. Despite this, I can assure you the setting-back of frontage in Calthorpe Street 8 feet, and the facing of the heavy retaining wall with white glazed bricks, coupled with the use of ivory glazed work in the basement, has secured an amount of good lighting.

There is a frontage of 200 feet to Calthorpe Street and 125 feet to King's Cross Road, with a superficial area of 17,180 feet. A portion of the foundation work was troublesome, although interesting, as on the west side (the left-hand boundary) the old Fleet Ditch followed the line of boundary. This necessitated the removal of a large quantity of particularly offensive mud and the filling up with concrete and carrying a thick slab some distance from the ditch on to firmer soil, as a very heavy weight consequent upon the staircase comes at this part.

Generally the construction and materials throughout are as at Newington. The arrangement of superintendent's residence, office and entrance are planned in the same relationship, and also the provision of bed-makers' staircase for access to cubicles and their room in basement. There is also the same complete isolation of lodgers' portion of building from all other parts.

The house has cubicles for 677 lodgers. The smoking-room has seating accommodation at tables for 128 men; the floor area is 1,600 feet. The crockery store is somewhat on the small side, and more provision is made than in other houses.

The dining-room has seating accommodation at tables for 376 men; the floor area is 4,000 feet. This room was planned in my first scheme of an L-shape, but it was decided that it would prove advantageous to increase the accommodation for lodgers who dined in the building and also to make special provision for those who wished to prepare their own food. The smaller section of dining-room was added and the lodgers' scullery, with the result that this room is more generally used



by those who prepare their own food. The lockers which had previously been planned here were placed in basement, the site being too small to permit of the retention on ground floor.

The reading-room has seating accommodation for 112 men at tables; the floor area is 1,528 feet.

As some of the tables in these day-rooms have seats on one side only, it is quite possible by the use of a few chairs in each room to seat every lodger at a table, independent of the usual seating around fireplaces.

Basement.

The lavatory has eighty basins; this is rather excessive, and in the other houses that number is found to be sufficient for 800 men; a basis of one basin for ten men is ample. The baths, feet washing and lodgers' washhouse are on lines similar to Newington. Water-closets are provided for day use in proportion of 1 in 20; there are too many urinals.

The catering section and accommodation is proportionate to Newington. The vaults on site existed and are used for coals, crockery and meter-room. In general planning, sizes and construction the cubicles are as Newington, with the exception that the staircases are not quite so ample, and but one water-closet for night use is placed on each of the various floors. Railed communication across the roofs is provided.

Hammersmith.

This building is erected upon a site within 200 yards of Hammersmith Broadway. The site consists of two parallelograms, the smaller of which forms the frontage to Hammersmith Road, the frontage to which is 65 feet by a depth of 102 feet to its junction with the larger, which has a width of 160 feet by a greatest depth of 276 feet; the total superficial area is 44,000 feet.

The site is one which is but seldom to be found in the London district, and, despite the small frontage, is one that lent itself admirably to the purpose of my building The space was sufficient to permit the erection of a building upon the back portion, reserving large areas for light and air, while utilising a portion of the frontage for business premises with a reserved entrance to Rowton House. The site had been originally occupied by an old house known as Oak House, and the land at rear was garden ground undisturbed Immediately below the surface a beautiful bed of sand and gravel gave a good foundation, and it therefore proved possible to place the whole of the accommodation other than cubicles upon one level, sinking a small basement for furnaces, bed-makers' room and parcels room only. To the west was vacant land, now covered with low buildings belonging to the Road Car Company, which secures good lighting in that direction, in addition to that on site of buildings. On the east, at present a passage known as Rose and Crown Lane separates that boundary from a row of two-storey cottages, while a width of an average of 30 feet is reserved on site of buildings to protect light in the event of a rebuilding scheme for these cottages.

Materials and construction, excepting in a few minor details as at Newington.

The superintendent's residence is here a three-storey building above pavement, the lower storey being used for office, and is situated in relation to entrance and access from same as in other houses. The bed-makers use the front main staircase with a separate staircase down to their room; the catering staff enter at side of office and are isolated from the lodgers' section. The ground-floor main corridor has been made 2 feet wider than Newington The smoking-room has seating accommodation for 164 men at tables, the floor area is 2,428 feet, it is top-lighted, in addition to large bay window, the fireplace in bay is covered down at cill level and the window runs over it. The dining-room has seating accommodation for 464 men at tables, the floor area is 5,722 feet. The reading-room has seating accommodation for 176 men and a floor area of 3,128 feet. The table accommodation in these rooms provides a seat for every lodger, exclusive of easy and other chairs. Lavatories, water-closets, baths and feet washing are proportioned as at Newington. The lockers here are all 3 feet 1 inch high by 1 foot 6 inches square, with shelf and space for umbrella; they are placed three in height, and may be taken as a new standard of size.

Cubicles.

In consequence of the length of site it was found possible to throw out an arm from the usual U shape towards the north with sufficient lighting east and west for the cubicles. This gave such increased accommodation on each floor that the building was built to a height one storey lower than Newington or King's Cross, and still provides accommodation for 800 men. The lengthening to the north made a third staircase necessary, a staircase which, moreover, is convenient for access to the centre of cubicle floors, and is, therefore, most generally used.

Whitechapel.

This, the latest of the Rowton houses, is in course of erection in Fieldgate Street, which runs parallel with Whitechapel Road, and is immediately behind the St. Mary, Whitechapel, station. It has a frontage to Fieldgate Street of 192 feet, and a back frontage of 259 feet by a depth from front to back of 128 feet, giving a total area of 29,589 feet While this gives an area somewhat in excess of the Newington site, the departure from the rectangular form, and the decrease in depth, gave me some little difficulty in planning the day rooms and catering and other portions of the buildings. For cubicle planning the site is good, and permits of the omission of one storey as compared with Newington, yet giving an accommodation of over 800 beds. To plan the day rooms on a ground floor with a basement under would have provided excessive space in basement, and also increased the height above paving of building by a height of about 6 feet. I have therefore planned the entrance on paving level, and placed all the usual ground floor accommodation down on a sub-ground floor, the ceiling of which is 6 feet 6 inches above paving. The only room displaced by this arrangement is the reading-room, which will be approached from entrance hall by a staircase rising 7 feet only.

The entrance planning is as in other houses with these differences—the clerk has his bedroom, approached from the office by a staircase over the entrance; the superintendent's residence is two-storeys in height, and underneath his lower storey a third storey is obtained by lowering the floor (in the height of two storeys of main building) and forming a basement containing bed-makers' room and porters' room, approached by separate staircases, the bed-makers' by the wooden staircase at the end of entrance, and the porters' by a staircase from lower ground floor level under staircase to reading-room; parcel-room adjoins porters' room.

The dining-room is chiefly top-lighted, and seats 464 men at tables; the floor area is 5,832 feet. The smoking-room accommodates at tables 112 men and has an area of 1,960 feet. The lockers are of the size mentioned for the Hammersmith House, and provision is made for one for each lodger. Lavatory, bath, feet washing and water-closets are practically the same. The staircase up to reading-room gives access to the roofs over the rooms in central courtyard; these will be railed in as a smoking lounge. The reading room seats at tables 144 men in addition to easy chairs, &c., and has an area of 2,430 feet. On the same floor cubicles are planned, the central corridor leading to a staircase at each end The upper floors of cubicles are served by three staircases; that at corner of building I anticipate will be the one in general use.

Mr. T Blashill, who proposed a vote of thanks to the author of the paper, said he had been very much struck with the extremely good way in which everything was done in Rowton Houses, both in construction and finish It was very good of Mr. Measures to give them so much valuable detail in regard to these buildings, for detail in such cases was of great importance He thought that provision of buildings of this kind was likely to be increased to a great extent, for it seemed to be one way of solving the housing problem.

Mr. A T. Bolton, who seconded the vote, said he could bear testimony to the great attention to detail Mr. Measures had given in this class of dwelling.

Mr. C. H Brodie, Mr. H V. Lanchester and the President also supported the vote of thanks, with which was associated the names of Lord Rowton and Sir Richard Farrant for allowing so much information to be made public.

Mr. Measures, in reply, said the expression "a poor man's hotel" was the best designation for the houses. As to the good work shown in the construction, the company were their own contractors, and there was therefore no inducement to scamp work. Everybody connected with Rowton Houses, from Lord Rowton down to those who had charge of the works, was keenly interested in the buildings, and that interest was seen in the work done. The dwellings were not ventilated by artificial means because the company could not afford to spend money in that way. They relied on the windows for ventilation, and these for safety had to be out of the reach of the lodger.

IRISH ART.

A LECTURE was given in Dublin on Monday by the Rev. T. O'Donovan before the National Literary Society on "Native or Foreign Art." The reverend lecturer said he had no intention of evolving any new theories of art. He proposed merely to say some very obvious things on the conditions governing art in Ireland. That would entail some reference to foreign art, not indeed at its best, or as it had expressed itself in its own surroundings, but as they saw it around He would confine himself to decorative art, and to the higher arts allied to it, or which sprang from decorative art—architecture, sculpture and painting. One required a certain amount of courage to speak at all of art in Ireland. At first sight art would seem to have fallen on evil days. For many people the word "art" had no meaning. For others it was vaguely connected with accomplishments which were beyond the reach of the masses of the people. The art-sense, if it ever existed in

Ireland, seemed to have died out. The uneducated gave no sign that they were awake to the beauty of forms which filled their eyes from the mystery of the dawn to twilight. With certain notable exceptions, art seemed to have passed by the cultured. All the active forces in the island of mist and beauty seemed to have conspired to deaden men to a sense of the beautiful. Whatever the cause might be, the result was that not only was there no appreciation of good art, but there was little interest in art, good or bad. There was no art patronage by the rich. The larger houses in Ireland were hideous structures—dull and heavy, undecorated, without colour. What the house would be might be concluded from the entrance-gate, stolid, heavy—"respectable," he believed, was the word to describe it, so respectable that an artist would hesitate to attempt to put it into any of the beautiful forms of which ironwork was capable. Inside the house there was no carving in wood or stone—he spoke of the generality of the houses—no painting, no internal evidence that the dwellers had souls In some houses a few chromo-lithographs or hunting engravings, or religious prints showed a dulled understanding of the craving for colour and form which was hidden away in some recess of every man's heart. There was one centre of art patronage in Ireland, one patron that within sixty or seventy years had spent millions of pounds on architecture and mural and other decorations. That patron was the Roman Catholic Church. These millions, many of them willingly offered, but hard-earned money of the poor, gave evidence of faith and love capable of fostering the highest art. But while these churches had within them the living faith of the people, they told another story, and, it grieved him not a little to say it, a record of a complete absence of artistic taste. The lecturer then commented on the architecture which, with few exceptions, was decadent and conventional. It was questionable whether Gothic, the prevailing style, was at all suited to the genius of Ireland. The lecturer then spoke of the decoration, which, he said, was all bad He condemned the system of importing cheap decorations from Germany instead of encouraging native art. The stained glass windows were poor work. After indulging in what he called destructive criticism, he expressed hope for the future of art in Ireland. His chief reason was that the bad art of which he had been speaking was not Irish art He looked forward to the reawakening of the imagination of Ireland. He spoke of the education and art of the country in the past, and he believed that with education great things would be done in the future. With regard to the neglected Hibernian Academy, more real art could often be seen on its walls than in similar but more favoured institutions abroad. Skilled craftsmen were every day going to other countries to earn a livelihood denied them at home. The lecturer urged that native art and artists should be encouraged, instead of importing such work as they saw throughout the country in churches and elsewhere. What a wonderful work it would be to awaken the art sense again in the Irish people at a time when art was sinking into the western sea, to recall it, to foster it with reverent hands, and, having quickened it into new life from the storehouse of Celtic imagination, to kindle with it again the imagination of the world.

CHESHIRE ARCHÆOLOGICAL AND HISTORIC SOCIETY.

A MEETING of this Society was held on the 19th inst. at the Grosvenor Museum, Chester, when an interesting lecture was delivered by the Venerable Archdeacon Barber, who took as his subject "The Roof of the Church of St. Mary-on-the-Hill," which, as the lecturer mentioned, had often in previous years engaged the attention of the Society.

On September 3, 1900, he said, he detected a large fracture in the ridge beam of the middle bay. The churchwardens were called in, and on closer observation it appeared that the defect was of a serious nature. Immediate steps were taken to secure the safety of the congregation and the preservation of the roof by effectually shoring up the faulty beam, and a careful and thorough examination of the structure was made. From this it became evident that the timbers had been ravaged by the little wood beetle (or death watch), and that all strength had been taken from some of them, so that they were incapable of bearing the weight of the lead with which the top was covered. Messrs. Lockwood, the architects, were called in, and the work of preserving the roof was entrusted to Mr. Browne, of Castle Street. The archdeacon then described the construction of the roof in detail, and, proceeding, said some idea of the mischief might be gathered from the fact that the fissure measured 2½ inches at its opening, and that the beam had sunk to the depth of more than a foot in its length of 15 or 16 feet. In restoring the roof the bosses had been left as they were found. Very few required touching up, and when this was done great care was taken to restore the original colour. There was a wonderful variety of design exhibited on the bosses, and he could correctly say that no two were exactly alike. He thought these bosses would form an excellent object-lesson to the students in wood-carving of the present day. Besides their manifold variety, their gracefulness and beauty is unquestionable. With regard to the date of the work, Mr. Micklethwaite assigned it to the time of Henry VII. It had been suggested (if not actually asserted) that the roof was brought from Basingwerk Abbey in 1536. He did not know whether there was any old tradition to that effect, or if it arose from a paragraph in Mr. Earwaker's history of the church and parish. At any rate, an entry occurred in the churchwardens' accounts of 1536 stating that in that year "the quire (or choir) was bought at Basingwerk, and sette uppe with all costs and charges belonging to the same." Did the "quire" mean the roof or the choir of the abbey, or does it refer to the screen or to stall work? Both Mr. Seddon and Mr. Micklethwaite doubted the story of its being brought from Basingwerk. Mr. Lockwood was convinced that the roof was not originally made for St. Mary's Church, but was brought there from some other church. In conclusion, Archdeacon Barber said he hoped he had roused some interest in this relic of the past. They certainly would need not merely interest but very substantial help to meet the heavy expenditure which the work had entailed.

A discussion took place as to whether the nave or roof had been removed from Basingwerk. Mr. Taylor said from the lecture it appeared that it was very probable that the roof of St. Mary's was not made to fit its present position, but had been brought from some other church. As they all remembered, there had been a terrible displacement of monastical effects, and at the present day one of the large bells belonging to the monastery of St. Werburgh's was in the tower of Conway Church. The bell bore the following inscription :—"Ave fidelis dia Werburgh sanctissima, felix in choro virginum ora pro nobis Dominum Johes Burchynshaw Abbas Cestre." Could not (he said) the Dean and Chapter communicate as to the bell's removal to the tower of their cathedral where it originally did service as intended by its owner?

In conclusion, a vote of thanks was accorded to the lecturer.

TESSERÆ.

Proportion in Architecture.

IN architecture there are certain proportions of breadths, lengths, depths and entire magnitudes to each other, which are by some supposed to be naturally beautiful, just as the simple ratios of 1 to 2, 2 to 3, 3 to 4, &c., in music yield sounds which are naturally pleasant to the ear. But it rather seems that economical convenience first determined the ratios of doors, windows, pillars, &c, in a gross way, and then that the convenience of the artists fixed this determination to some few exact ratios, as in the proportion between the lengths and breadths of the pillars of the several orders. Afterwards these proportions became associated so often with a variety of beauties in costly buildings that they could not but be thought naturally beautiful at last. In merely ornamental parts the beauty of the proportions seems to arise entirely either from fashion or from a supposed resemblance to something already fixed as a beautiful proportion It is easy from these principles to account for the prevalency of different proportions and general tastes in different ages and countries.

Wiltshire.

To the antiquary Wiltshire affords a wider and more varied field for research than, perhaps, any other county in England. The grand and mysterious monuments of Stonehenge and Avebury, and the numerous barrows which cover its plains, are relics of an age anterior to historical record, and of which the annals of ancient nations do not furnish parallel examples. Like the vast Pyramids of Egypt, the former were calculated, by their construction, to subsist to an almost endless futurity, and would, probably, have remained entire to the present period if the action of the elements had not been assisted by the destructive agency of man. In the Wansdike, Bokerly Ditch, and in the simpler entrenchments with which the county abounds, we behold the remains of British towns and perceive the mode adopted by the Britons to mark boundaries and form communications. The castles of Old Sarum, Scratchbury, Battlesbury and Bratton display the efforts of a more advanced period, and, with many others of the Wiltshire entrenched works, bear the marks of successive occupation by the Romans, the Romanised Britons, the Saxons and the Danes. This portion of the kingdom, indeed, seems to have been the principal theatre of military and civil events which were consequent on the Saxon and Danish invasions. Here the far-famed Arthur, and the still more illustrious Alfred, contended at different periods for the liberties of their country and checked, for a time, the tide of invading conquest. At Ludgershall, Devizes, Malmesbury and Marlborough the vestiges of Norman fortresses may yet be traced; and in Clarendon Park stood a sumptuous palace, erected by King John Malmesbury yet preserves the ruins of a magnificent abbey church, and at Lacock are to be traced some interesting features of monastic buildings. In the cathedral of Salisbury we behold an edifice surpassing every similar ancient structure in uniformity of style and symmetry of parts. Many of the parochial churches in the county are, likewise, objects worthy the examination of the antiquary as specimens of architectural skill and science, and in Wilton House, Longford Castle, Font Hill Abbey, Corsham House, Bowood, Tottenham Park, Charlton Park, Stourhead, and Longleat we are presented with mansions alike celebrated for magnificence and beauty of scenery and for popular attraction to the connoisseurs and artists of the country.

Greek and Roman Houses.

Greek building, in comparison with other great architectures of the world, was small in scale and simple. It was entirely a public architecture; its domestic building amounted to very little. The towns were small, gathered for security within a circuit of close walls, in tangles of close streets more cramped than the most secluded towns of Italy or Switzerland at this day, in which small, low houses were huddled together. Even in the larger cities, where the houses gradually overflowed the fortified citadels and accumulated in open suburbs, they crowded together in streets so narrow that in Athens, we are told, in the time of the Pisistradiæ, Hipparchus laid a tax on overhanging storeys and doors that obstructed the way by opening into it. In Rome, also, under the empire the case was hardly better, for modern excavations show that on the Palatine itself the streets that isolated the imperial palaces were like the narrowest lanes that we see in the old quarters of Genoa and Venice to-day, and we read that the high houses overhung in storey after storey till the uppermost storeys joined, and the ways below were left in darkness. The life of the Greeks was in the market-places and public buildings, pre-eminently a town life, for they were, if it dare be said, a race of martial cockneys, and a mercantile race in this a good deal unlike the Romans. Their houses were for the most part only places to eat and sleep in, with a little yard or garden, where their women took exercise or recreation, when they could afford room for it. It was not until their architecture was fixed and the decline of the ancient cities had begun that Demosthenes found reason to complain that private houses were getting too large and public buildings too small The primitive Greek life was a life of religion and warfare; religious traditions shaped their architecture by making the temples, which served equally for the service of the gods and the commemoration of victories, as dominant and representative as were the churches in the Middle Ages About them gradually clustered the few and simple buildings that served the public.

Papyri from Herculaneum.

In the year 1800 a literary mission to Naples, with Mr. Hayter as director, was undertaken by the command and at the expense of the Prince of Wales, afterwards George IV., for the purpose of facilitating the unrolling of the MSS. which had been discovered in a library among the ruins of Herculaneum, more than 1,600 years after the destruction of the city by the eruption of Vesuvius. The value of this fortunate interposition of princely and national influence will be best seen by the recollection that the ruins of Herculaneum were discovered at the commencement of the eighteenth century; that the library in which the MSS. were deposited was brought to light by an excavation in a garden or shrubbery of the church of S. Austin, close to Portici, as long since as the year 1752; that though a society was appointed by the King of Naples for the unrolling of the MSS. then discovered (about 1,800 in number), and the work thus begun was never discontinued till the irruption of the French into Italy in the year 1799, yet in that interval of nearly fifty years not more than seventeen or eighteen MSS. had been unrolled. Of these MSS the first that was unrolled, and the only one that was published in that long period, was a work of Philodemus on music. In 1802 Mr. Hayter commenced his undertaking with the aid of Neapolitan artists, who were employed by him in unrolling, copying in facsimile and engraving. In the course of four years more than 200 MSS. had been wholly or in part unrolled under his superintendence. In the year 1806, after the repossession of the kingdom of Naples by the French, Mr. Hayter was compelled to retire to Sicily, and from thence to England, leaving behind him the unrolled papyri and a large portion of the facsimile copies, of which he had been forcibly deprived, yet bringing with him facsimile copies of ninety-four MSS. These facsimile copies were presented by the Prince of Wales in 1810 to the University of Oxford for publication.

The English Ploughland.

The measurement of a ploughland, or carucate, appears to have been arbitrary, and never reduced to any specific standard. It differs considerably, not only in different counties, but in different districts of the same county, and in the same counties at different times It may in general be said to be as much arable land as could be tilled and managed by one plough and its team of horses or oxen in a year, having meadow, pasture, and houses and cattle belonging to it. In the reign of Richard I. it was computed at 60 acres, yet another charter 9 Richard I allots 100 acres to a carucate. And Fleta, temp. Edward I, says if land lay in three common fields, then nine score acres to a carucate, sixty for winter tillage, sixty for spring tillage, and sixty for fallows. But if the land lay in two fields, then eight score acres to a carucate, one-half for tillage and the other for fallow. The measure of a carucate was different according to time and place. In 23 Edward III. one carucate of land in Burcester contained 112 acres, and two carucates in Middleton were 300 acres. By a statute under William III. for charging persons to the repair of the highways, a ploughland is rated at 50*l.* per annum, and may contain houses, mills, wood, pasture, &c.

GENERAL.

The Royal Academy Banquet will not be given this year as a consequence of the death of Queen Victoria.

The Jury in the section of painting of the approaching Salon will be under the presidency of M. Henner, and will consist of the following members:—MM. Albert Maignan, Barillot, M. Baschet, Benjamin-Constant, Bonnat, Cormon, Demont, G Ferrier, Hermann-Léon, H Lévy, Luigi Loir, Raphaël Collin, de Richemont, Saintpierre, Tattegrain, Thirion, Toudouze, Victor Gilbert and Wencker.

The Metropolitan Asylums Board have obtained authority to expend 20,500*l* in the erection of homes for children at Rustington, Sussex, and 125,964*l.* on the White Oak school.

Mr. Perry F Nursey will on Monday read a paper at the meeting of the Society of Engineers on "The Production of Metallic Bars and Tubes under Pressure."

Mr. A. N. Paterson, M.A., will read a paper on "Tradition, Archæology and Art" at the meeting of the Liverpool Architectural Society on Monday next.

A Bridge is to be placed over the Tyne at Shields whenever 100,000*l.* is available. A larger sum is likely to be required, for it is considered desirable to obtain a structure which will differ in character from the others across the river.

Mr. W. J. Robson, of Pontefract, has undertaken to furnish the south window of All Saints Church with stained glass as a memorial of his father, the late Mr. George Scott Robson, who died in May last. The cost of the work is estimated at 600*l.*

M. Jean Charles Cazin, the French painter, died near Nice, on Tuesday. He was born in 1840. His most popular work is the *Hagar and Ishmael*, which belongs to the French Government. For a time he taught at the South Kensington school

Bawtry Church is to be reopened after restoration on May 2. The works have been carried out under the direction of Mr. C. Hodgson Fowler, F.S A.

Sir T. H. Holdich read a paper on "The Greek Retreat from India" at a meeting of the Indian Section of the Society of Arts, held at the Imperial Institute on Thursday, March 28.

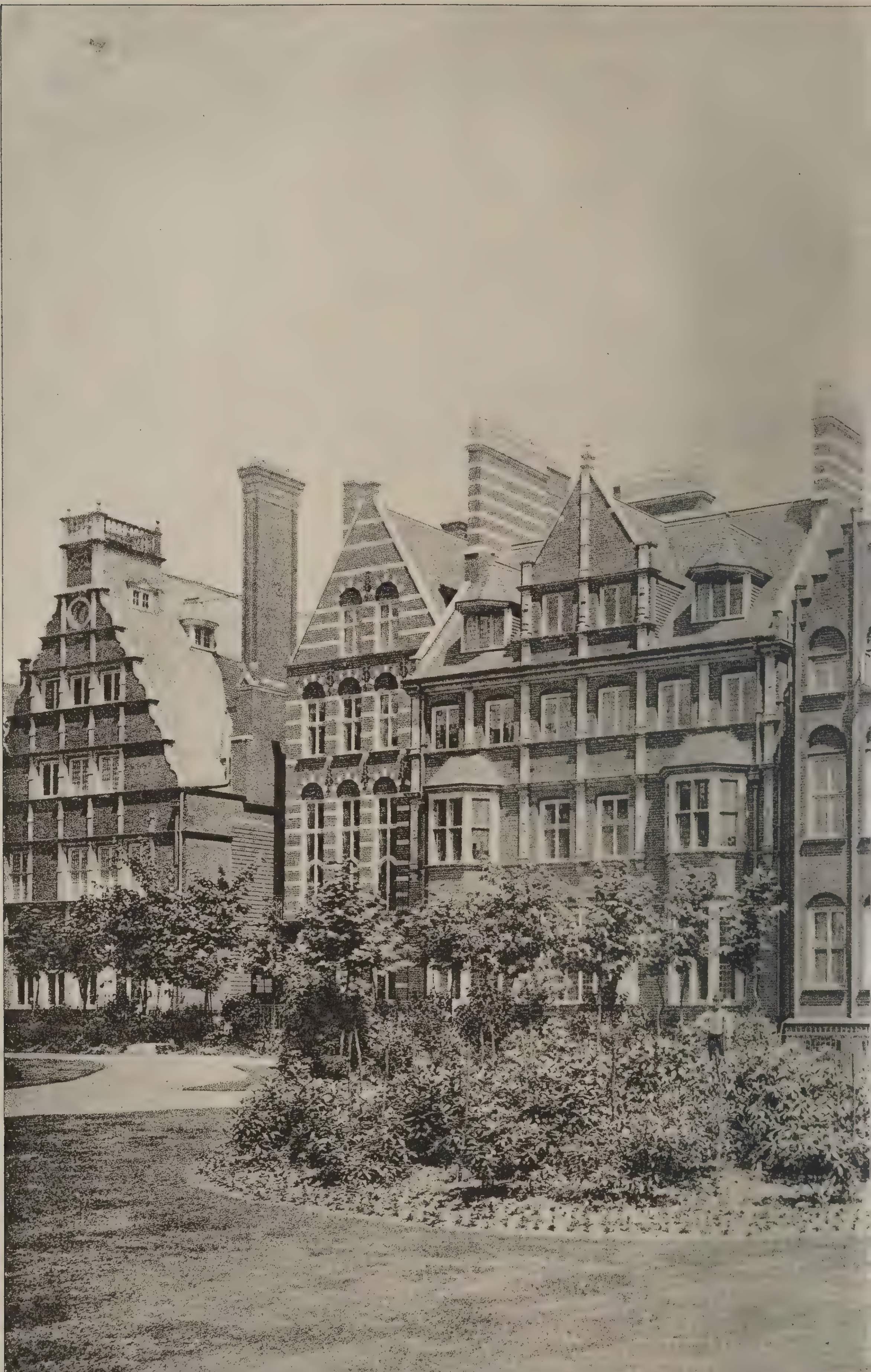
Mr. Luke Fildes, R A., has received a commission to paint a portrait of His Majesty the King.

Viscount Midleton made an appeal at the annual meeting of the Surrey Archæological Society for aid towards the cost of the excavation of Waverley Abbey, in order to ascertain the arrangement of the buildings About 250*l.* has been spent on the work, and 150*l* is still required.

The Annual General Court of the Church Building Society will be held at 3 P M. on Friday, May 17, at the Church House, Dean's Yard, Westminster, when the chair will be taken by the Archbishop of Canterbury, president of the Society.

Mr. Frederick Boreham, architect, died on Monday last, at his residence at Highbury, at the age of sixty-one. He was architect of many Methodist churches in London and the provinces, besides many secular works, which include the new publishing offices of Messrs Horace Marshall & Son. He had been in practice over thirty years.

The Last of the series of interesting and instructive lectures on matters connected with architecture and building, under the auspices of the Worshipful Company of Carpenters, took place on Thursday evening of last week, at Carpenters' Hall, London Wall, when Professor T. Roger Smith, F.R I B.A., took for his subject "Westminster Abbey," and notwithstanding the inclement weather there was a large and appreciative audience, who listened with attention to the Professor's discourse which, as usual on these occasions, was illustrated with a series of very beautiful lantern photographs.



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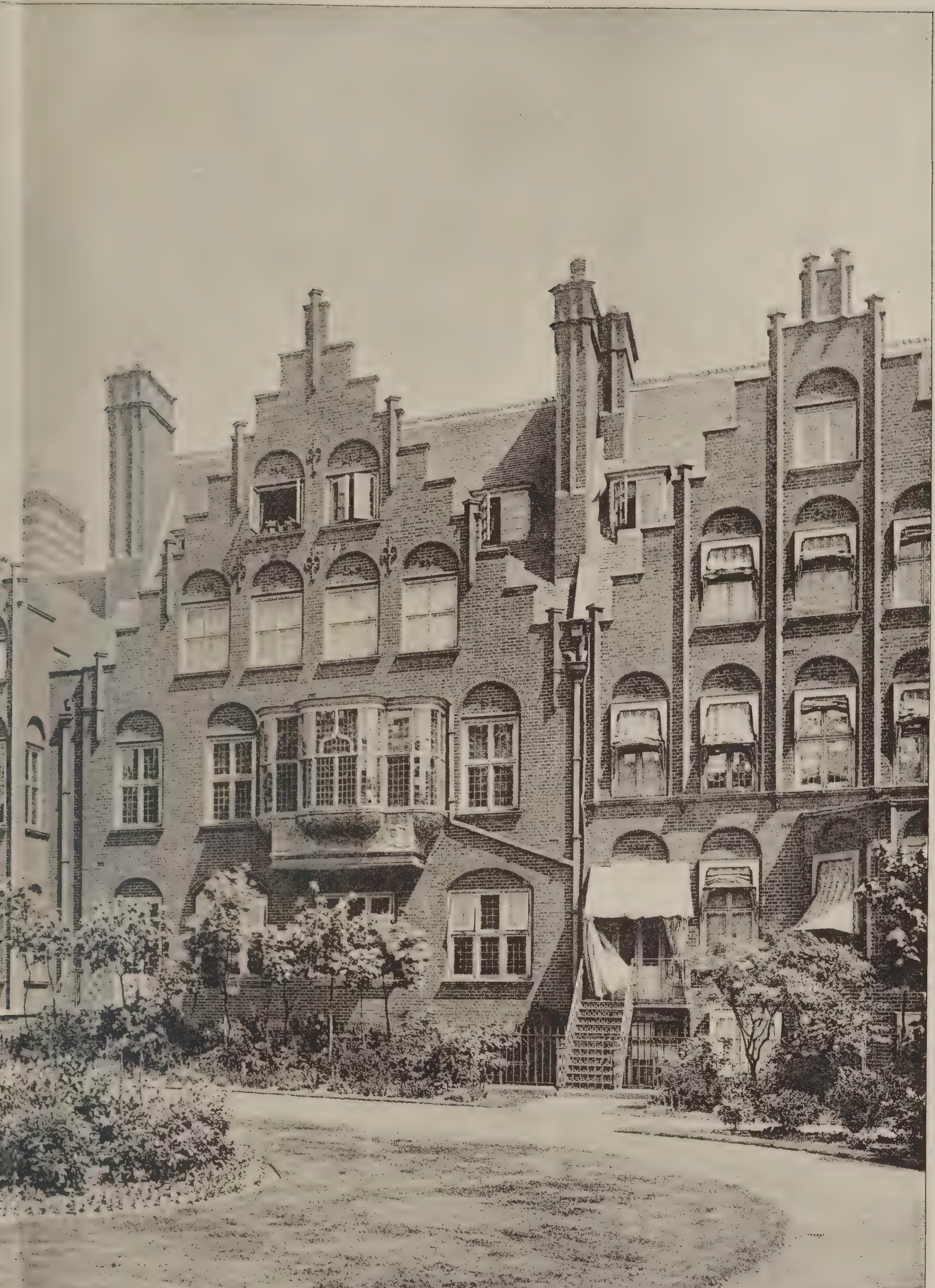

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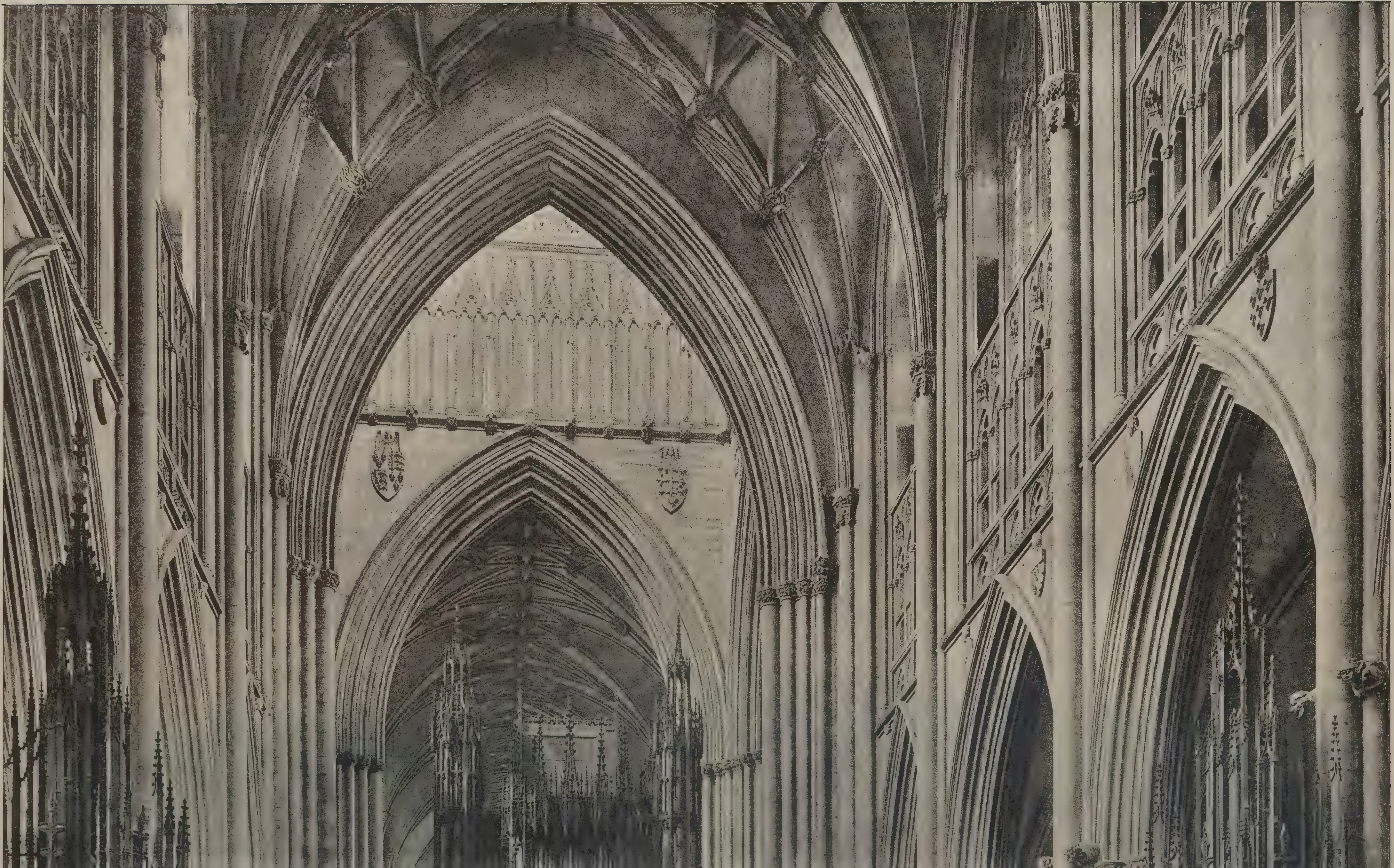

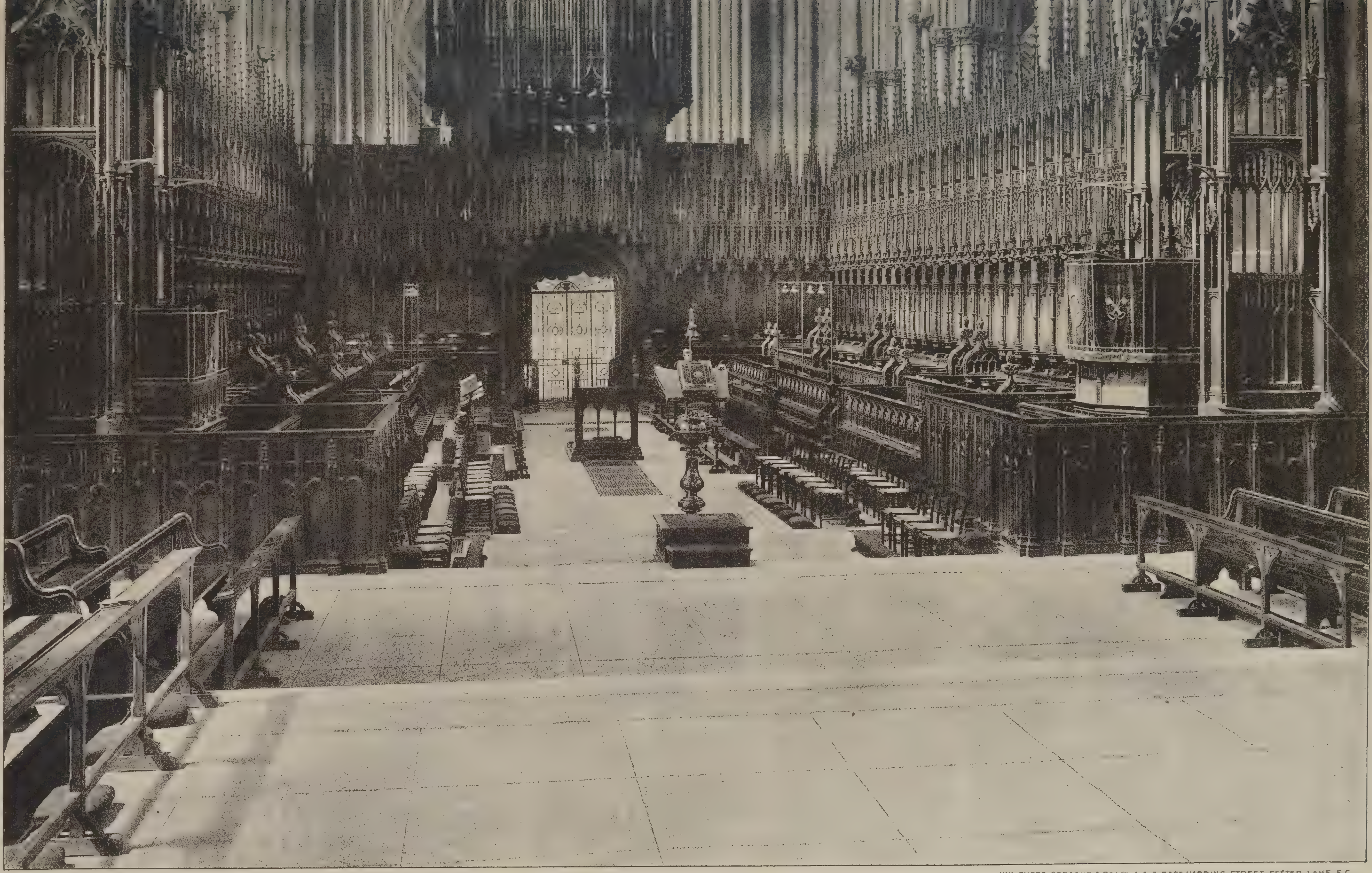

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Cathedral Series, No. 325.—York Minster: The Choir, to Organ Screen.

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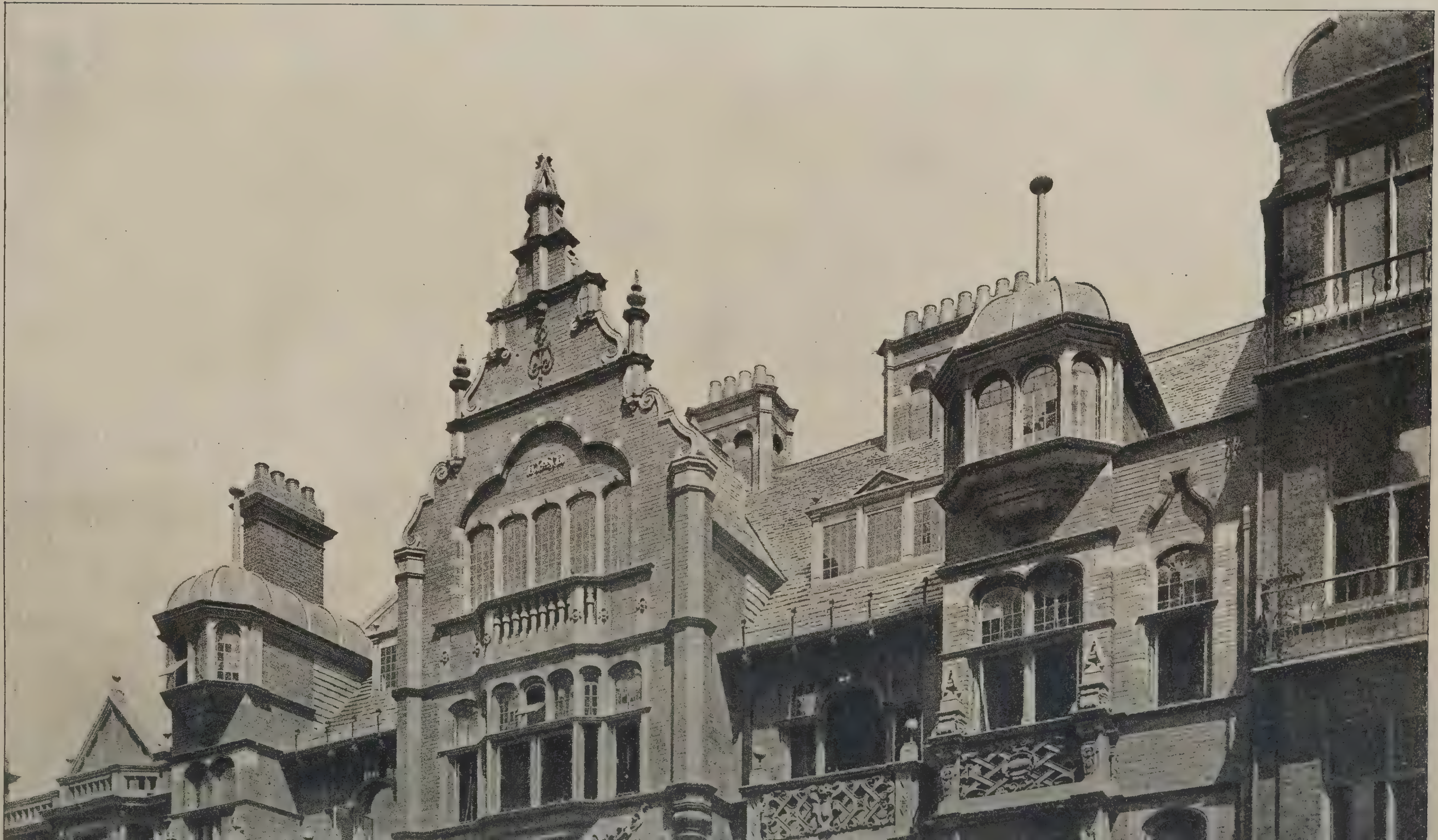

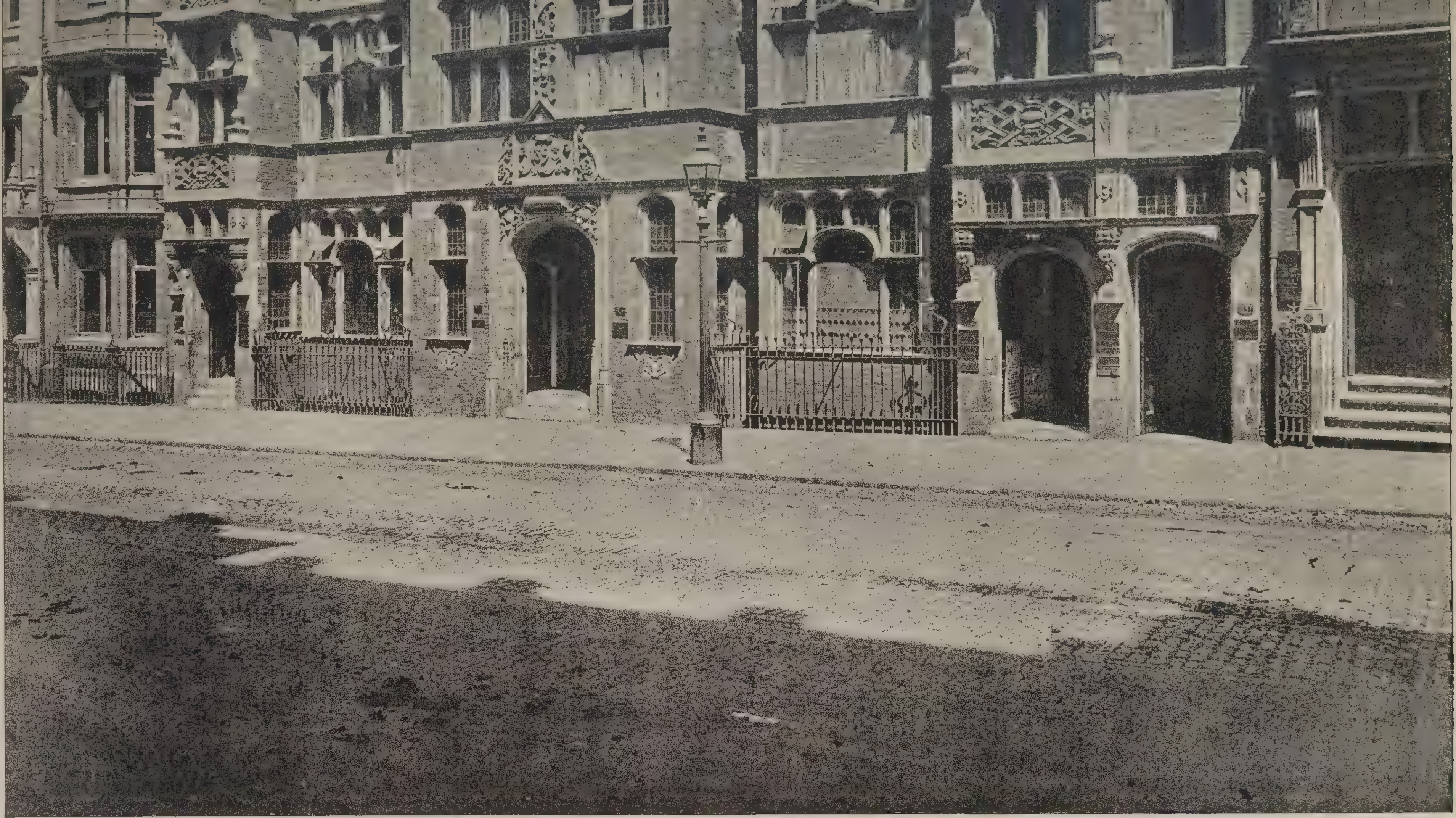

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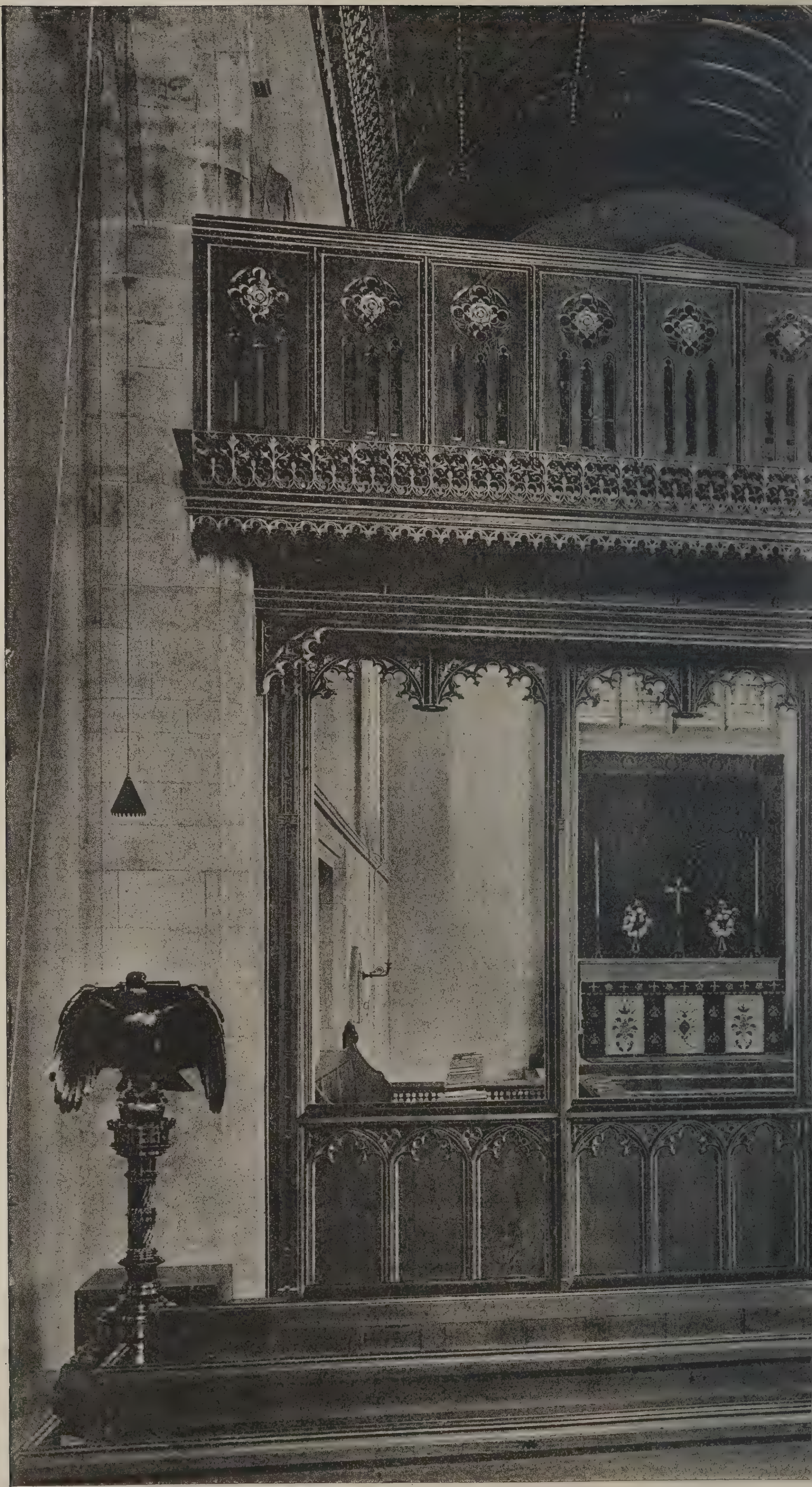

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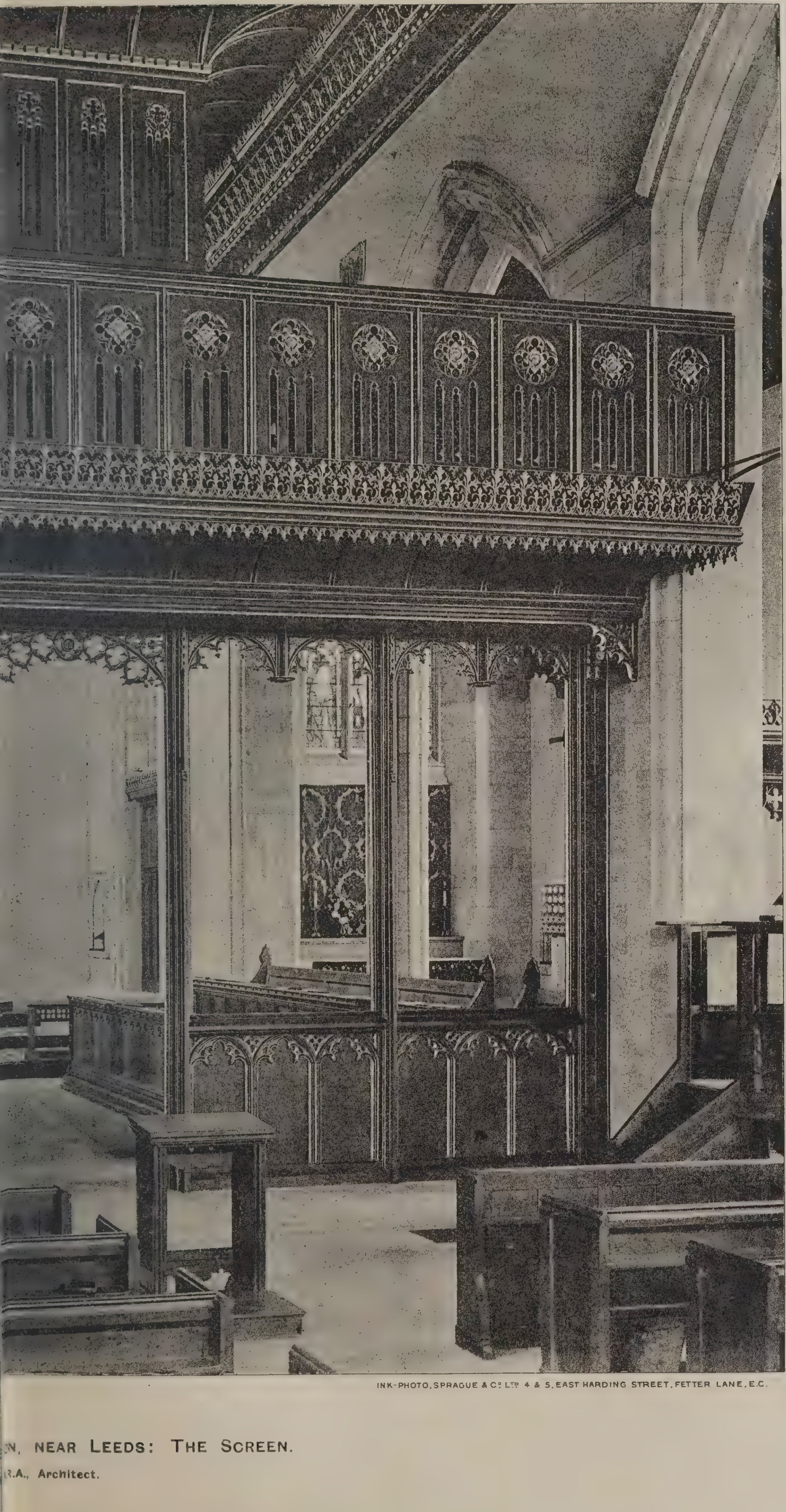

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N, NEAR LEEDS: THE SCREEN.

R.A., Architect.

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The Architect.

THE WEEK.

The report of Council of the Edinburgh Society of Ordained Surveyors for 1900-01 states that one additional member, Mr. Colin B. Cownie, has been admitted to the Society. With deep regret the Council records the death of its first president, Mr. Peter Lawrence. The Council elected Mr. Andrew Lawrie to the office of President, and Mr. A. K. Smith to the office of Vice-president. At the last annual general meeting the Society adopted the modes of measurement for mason-work, dated May 1897, and joiner-work, dated April 1899, prepared by a joint committee of ordained surveyors and master builders, and the same committee of surveyors was appointed to meet with a committee of tradesmen in the other trades for the purpose of compiling uniform modes of measurement for these trades. The Council decided to take no action with reference to a request from a number of members that opinion of counsel should be taken as to the competency of the motion adopting these modes. A special general meeting of the Society came to a similar decision. The examiners in the final examination, held in February 1900, reported that one candidate, remitted for examination by the Town Council, had passed the examination, and that the other candidate, remitted for examination by the sheriff, had failed. The Board reported to the Town Council that the candidate remitted by the Council had passed the examination, and the candidate subsequently took the oath and signed the bond of caution, the cost of which, in terms of rule 41, was defrayed by the Board. In the preliminary examination held in October 1900 one candidate came forward for re-examination in one subject and succeeded in passing. Eight candidates came up for examination. The result was that seven candidates either passed or were exempted from the full preliminary examination, and that one candidate failed in three subjects, and one in two subjects. The examination, as last year, was conducted by Mr. Robert Robertson, M.A. For the final examination held in October 1900 one candidate came forward, remitted by the Town Council for examination. The examiners, Messrs. Lawrie, Morham and Reid, reported that he had failed to pass the examination. For the preliminary examination during the present month three candidates have presented themselves, and one candidate has come forward for re-examination in two subjects. For the final examination one candidate has come forward for examination, and one for re-examination. There is a balance of 5*l.* 8*s.* 7*d.* to the credit of the Society, but the fees of the examiners for the October examination have to be paid.

The Egyptians were as glad to celebrate jubilees as any of the modern inhabitants of Western Europe. At Abusir Dr. Borchardt has found an obelisk with an inscription recording that it was set up by King Seschep, of the fourth or fifth dynasty, as a memorial of his thirty years' reign. Another inscription states that at a later period a king of the Middle Empire had found the obelisk in a ruinous condition and restored it. There is a third inscription belonging to the Ptolemaic period announcing a second restoration. Dr. Borchardt is also busy in removing the soil which conceals the walls of the ancient Busirus. Remains are found of an immense palace, but it appears to have been erected of sun-dried bricks. Much more could be found, it is believed, by the employment of a larger number of labourers.

John Martin was endowed with extraordinary imagination, but his training as a painter was insufficient. He was not always able to realise his own thoughts. On that account he was praised by many writers who were able to appreciate his difficulties. Bulwer-Lytton thought that Martin was unique, for among neither ancient nor modern painters was there another man with such peculiar gifts. Macaulay, who was the embodiment of clearness of expression, pointed out that Martin was too fond of immeasurable spaces, innumerable multitudes, glorious prodigies of architecture and landscape, and he passed summary sentence upon him by saying, "Fairy palaces and gardens, porticoes of agate, and groves flowering with emeralds and rubies, inhabited by people for whom nobody cares, these are his proper dominion." Unfortunately the province marked out for him by Macaulay required skill as a colourist no less than an imagination which could summon up colossal forms. Martin's technique was very deficient. Having depicted Pandemonium, he seemed to carry away with him more of its darkness than its barbaric pearl-and gold. But his shortcomings should not blind us to his imaginative power. On that account everybody must sympathise with the efforts of Mr. E. Wake Cook, who is endeavouring to champion the cause of John Martin, and to convince the world of the injustice done to the reputation of a painter who only needed, as Coleridge pointed out, to endeavour to school his imagination into the apprehension of the true idea of the beautiful in order to be included among the great artists.

There is apprehension of a strike among the divers and other assistants engaged in the operation of raising the examples of ancient art from the sea near the coast of Cerigo. From the interest taken in the statues the men have formed an exaggerated notion of the value of their aid, and they have asked for wages on an extraordinary scale. In spite of the tempests the discoveries have been numerous and interesting. One torso which was lately raised recalls the Farnese Hercules in Naples. The head and feet are wanting, but fragments of them it is anticipated can be obtained. One of the discoveries is at present puzzling to the Greek archæologists. It is a part of a statue in marble, but on the breast lies a hand which is formed of bronze. Some have supposed the marble was intended to conceal work of more importance. Fragments of figures of animals are numerous.

Thatched roofs have been adopted for some modern English country houses. Dexterous thatchers are not to be found everywhere, and in consequence roofs are to be seen which have a looseness that was not characteristic of the work that was executed prior to the modern revival. In Scotland the authorities are not in favour of thatched roofs. By the Burgh Police Act of 1892 non-combustible roofs are alone legal. Hitherto it was believed that the clause relating to thatching was applicable only to new buildings. A case has arisen in Kilmarnock which suggests that the Act is also retrospective. An owner of three cottages was ordered to have them covered with a non-combustible roof within six months, and as he did not comply he was fined. The owner appealed, and contended that the Act was not applicable to buildings like his cottages, which had been in existence for several years and in which no alteration was made. The Sheriff dismissed the appeal, and it may therefore be assumed that thatch, however picturesque, is doomed to be supplanted by slates, which in Scotland are often of a dismal colour.

English villages frequently abound in interest of many varieties, and it is to the advantage of the inhabitants to preserve and put on record all that relates to their past history. The chief centre of the traditions is generally the parish church. To keep it in good order appeals as much to local pride as to churchmanship. Nowadays there are so many calls on people that an appeal for funds does not always receive as ready a response as could be desired. At Ockham, in Surrey, they have hit upon an ingenious method of helping towards the restoration of the old parish church. Mr. H. St. John H. Bashall, a churchwarden and chairman of the parish council, prepared a lecture, which was delivered in aid of the fund then being raised for rehanging the church bells. It was successful, for the work was accomplished. The author has put his lecture into book form, and it is published by Mr. Elliot Stock. All the profits are to be given to the church funds. The village is mentioned in Domesday, but only an arch remains of the church described in that record. The building, which is dedicated to All Saints, contains work of the thirteenth, fourteenth and fifteenth centuries, and is an excellent example of an English village church. There is a low tower, the east window has seven bays and there are a few brasses. Mr. Bashall's little book contains much which will be found interesting by archæologists.

YORK CATHEDRAL: THE CHOIR SCREEN.*

We have already quoted the opinion of the late Mr. Fergusson about a peculiarity which he considered was manifest in York Cathedral. It was designed, according to him, for a massive and congregational worship, and was not adapted to private devotion or scattered services like the other buildings of its class. Whoever introduced the choir screen did not interpret the arrangement of the cathedral in that spirit. About the signification of screens there has been much controversy. The late Mr. George Gilbert Scott, in his volume on the arrangement of churches, came to the conclusion that in some cases the screen was intended as a defence against armed force, that would violate the most important part of a church and make away with its reliquaries and valuable plate. The screen at York might have been originally intended for such a purpose. It is very massive, and the entrance, which is not exactly in the centre, could easily be closed and defended against invaders and robbers. Bishop John Milner, whose services in the revival of Mediæval art should not be forgotten, was of opinion that the screen was removed from the church of St. Mary, but the evidence for that theory was not supplied. John Britton thought that, "as an architectural and sculptured object, the screen is at once splendid and gorgeous. Its western face, or exterior, is covered with a superabundance of niches, canopies, brackets, pinnacles, crockets, finials, statues, masks, &c. It seemed that the artist was determined to charge every part with ornaments, and to exert the fullest latitude of fancy in giving variety and intricacy to its complicated members." Britton described the building in 1819, or about ten years before the wilful conflagration occurred. We have also the description of another enthusiast, John Carter, who visited York in 1790. In his remarks he said :—

> The choir screen, it may well be affirmed, is one of the noblest of the kind to be met with. In the centre the grand archway to the porch is preparatory to the approach into the choir. This porch is finely groined. The archway of this screen is embellished with a profusion of sculptures. On each side of the archway are eight rich niches, wherein are statues the size of life standing on pedestals; an entablature of exuberant work finishes the design. These statues present a series of our kings from William I. to Henry V., at which period, it may be supposed, this splendid screen was set up. The workmanship of the statues is particularly fine, the attitudes well varied, the draperies and every costumic particular minutely made out, and no doubt faithful to the fashion of each succeeding reign, the countenances, characteristic and strongly marked, according well with the ruling passions peculiar to each monarch. If at any future hour a perverse and unfortunate idea should be entertained, from the consideration that it is needful to restore certain mutilated parts of this screen, by submitting such a business to uninformed hands with regard to our antique, let them be Englishmen or Italians, it may be as well to item, for the satisfaction of present and future true antiquaries, the present state of the screen itself and of each several statue.

The screen having such a mass of sculpture exercised an evil influence upon the morbid feelings of Martin the tanner, and inspired him with a belief that he was destined by Providence to destroy a building which he believed was an aid to superstition. The screen especially was obnoxious to his eyes. In his statement he related how on coming to the great door in "the praying place" he found it locked; he had already cut away a part of the bell-rope after the ringers had left, and by its aid he was enabled to surmount the screen and to let himself down in the choir. He described his subsequent proceedings in the following words :—

> The first thing I did was that of getting all the books that I could, and cushions that were necessary, piled them up in two heaps, and set one pile on fire at the Archbishop's throne, and the other at the right-hand side of the organ; but before I set it on fire I scrambled up the pulpit side and cut off the gold lace all round the pulpit with my razor, and after that I cut off all the silk velvet I could get. When half-past two o'clock struck I lighted my fires; that at the Archbishop's throne burnt very fast, but the other burnt very slowly. I stayed half an hour in the place watching it. At three o'clock I started out and went on my journey.

The restoration of the cathedral was entrusted to Robert Smirke. In his report he said the altar screen was so injured that no part of it could be preserved. The organ screen was also in a great measure destroyed, and he therefore proposed that it should be removed. He had ascertained that it was advanced considerably in front of the screen which originally separated the choir from the nave. It was impossible to refuse to admit, according to Mr. Smirke, that whoever designed the screen indulged his taste at the expense of the cathedral, for no building could have presented a more sublime effect when the four great and noble pillars of the tower stood unencumbered with the work which was afterwards built round a part of them. In 1830 the remembrance, however, was still keen of the wholesale removals which Wyatt accomplished at Salisbury and elsewhere. Accordingly a strong party was organised to oppose the destruction or removal of the screen. John Britton appealed to all the subscribers to the restoration, and implored them not only to refuse to sanction the proposal, but to demand a faithful and full statement of the works that had been executed. It is strange that even enthusiasts cannot look upon architectural schemes of any kind as more than plots to bring increased profit to the architect. Britton accordingly begged Mr. Smirke "to forego all consideration of commission on such a job," and to refuse to lend his aid or give his advice about the removal.

Another opponent of interference with the choir screen was William Etty, the painter. He was a native of York, and his love of the nude did not prevent his admiration for everything connected with the old minster. Any meddling with the screen, he said, carried its own condemnation with it, for grandeur and magnificence arise not only from a just proportion of parts in relation to each other, but also not a little belong to length and magnitude. It might almost be concluded that Etty looked upon every blow aimed at the screen as striking himself. His personal interest in the proposed change can be judged from the following passage in one of his letters on the subject :—

> All who recollect it before the fatal blow struck at it by the cunning and cowardly incendiary who set it on fire and stabbed the peace of millions at a stroke, must have been forcibly struck with these things—with the grand and noble proportions of its parts, the effect these arrangements of distance had on the mind, and consequently the heart, lifting up the imagination, and by that the soul, to Him who made and sustains us. First, on the entrance through this beautiful screen, which, like the gate which was called "Beautiful" of the Temple of Jerusalem, was but the threshold of greater, more "sacred and home-felt delights" and glories. Then its receding length to the foot of the first flight of steps, then a platform, and then another flight of steps to another broad platform. The gradual approach to the altar in its beautiful simplicity behind it; the elegant altar screen (when I think of all this lost, my wounds bleed afresh, my heart and my eyes are full), and then an ample space beyond, till the eye in the distance is filled with the magnificence of the great east window, forming altogether a *coup d'œil* unequalled in the world—a space, a combination in which the eye and the mind are filled with images of majesty, splendour, beauty and extent beyond anything I ever witnessed, and I have seen many of the most celebrated cathedrals in Europe.

James Savage, the architect for St. Luke's Church, Chelsea, and various other Gothic buildings, advocated the re-erection of the screen, and he was borne out by L. N. Cottingham, who was regarded as no less an authority on the theory and practice of Gothic. Savage thought that the doorway of the screen was of earlier date than the lateral parts, but he believed that a portion at least of the screen was as old as the choir itself. The advocates of removal were able to obtain the support of William Wilkins, the architect of the National Gallery. After examining existing remains he came to the conclusion that in many instances the position of a choir screen was determined by convenience or caprice, and not by principle. Robert Smirke was therefore able to say with more confidence that "the only conclusion which an examination of the plans of all the cathedrals can really suggest to an unbiassed mind seems to be that neither the position of the screen nor the limits of the choir are fixed by any general rule or custom whatever."

In spite of opposition the party of conservation gained their point. The screen still remains, and will always continue to excite division among visitors. Americans especially, who are accustomed to long distances, generally are in favour of its removal, which would give them a longer vista. But, on the other hand, there are people like William Etty, who consider the glimpse that is obtainable through the opening as more pleasing than any unrestricted view of the choir. During some of the later restoration works the question of removal again arose, but the tendency in modern times is towards the preservation of what is old, and the historical interest is of more consequence than the artistic.

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* See Illustration.

THE "HORTUS DELICIARUM."

About 1344, or a year before his death as the Prince-Bishop of Durham, Richard de Bury wrote his "Philobiblon," a treatise on the love of books. He was tutor to the Prince who afterwards was known as Edward III., and he was one of the most important men of his age. But he was possessed of that strange instinct for collecting old books which apparently can never die out in this world. The humblest scholar in Oxenforde, whose only possession was a few books "clothed in black or red of Aristotle and his philosophie," could not be more enthusiastic in praise of literature. Books alone, the bishop said, were permitted to resist the destructive powers of time. "Towers are razed to the earth, cities overthrown, triumphal arches mouldered to dust; nor can the king or pope be found upon whom the privilege of a lasting name can be conferred more easily than by books. A book made renders succession to the author; for as long as the book exists, the author remaining *athanatos*, immortal, cannot perish; as Ptolemy witnesseth in the prologue of his 'Almagest,' saying he is not dead, who gave life to science."

In history we often find coming events cast their shadows before as evidence of some great revolution. In about eighty years after the bishop wrote his "Philobiblon," the art of printing from types was revealed to western Europe. During the preceding century the monks, who were the great caligraphists and whose services as such can never be forgotten, seemed to realise that their occupation was nearly gone, and they became indifferent to the toil which had made so many convents happy during several centuries. Bishop de Bury as a collector was grieved to notice the decline, and in his book he implores of the religious to continue in their delightful labour, which he believed was more worthy of their attention than any agricultural pursuit. The fields and the library were supposed to be the sphere of a monk's employment, and in the fourteenth century it was evident the fields had become more attractive. No plantations, no sowing of seed, no rearing of cattle, no construction of buildings would be as useful to posterity, he said, as the production of manuscripts, by means of which not only monks but laymen would profit at a future time. Moses, Joshua, Isaiah, Julius Cæsar and Titus were all writers, and the Saviour Himself bent His body in order that He might write upon the ground. He relates how in his own manors he was always surrounded by a vast number of antiquaries, scribes, collectors, illuminators—in fact, all classes of men and women who were able to co-operate in the production of books. No matter how humble might be their condition, students could, he said, easily find an entrance to his heart and an agreeable abode if they only appeared to have a love of his books. One can easily imagine how many poor castaways found their way to Auckland, to obtain nourishment for the body as well as for the mind. He employed the Dominicans to search throughout Europe for additions to his library, which at his death he bequeathed to the University of Oxford.

The bishop's book suggests to us the condition of an art in its decadence. Some years before there was little need to urge monks to undertake the copying of manuscripts. From the time of Charlemagne, to go no further back, Christian art was as much represented by the illuminator as by the mosaist. Under the Carlovingian dynasty a German painter named Daguelph gained renown for his Psalters. The Gospels of Charles the Bald in Munich and the Prayer-book of Queen Emma are also remarkable works of art. But in the tenth century there was no manuscript comparable to the Benedictional of Godemann, who was chaplain to the Bishop of Winchester and afterwards Abbot of Thornley. It is one of the treasures belonging to the Duke of Devonshire, and an elaborate description of it, with plates, was produced several years ago by the Society of Antiquaries. That great school of art, the Abbey of St. Gall, became as well known for its illuminated manuscripts as for its architectural designs. Sir Digby Wyatt says it was in the books employed in the ministrations of the Church in northern and western Europe that we meet with "the first assertion of those types of individuality in pictorial art which gradually displayed themselves systematically, and constituted the earliest really Gothic art."

It must not be supposed that the monks were allowed a monopoly of the production of manuscripts. From a remote Christian time the inmates of nunneries employed themselves on work for which their delicate and lissom fingers were well adapted. In a manuscript volume in the Munich Library there is a figure of an abbess from Ratisbon who is offering her work to Christ and His Mother, and from the place in which the figure is found it is concluded that she was the caligraphist. One of the most precious works of the Mediæval lady artists was the *Hortus deliciarum* by Abbess Herrade of Landsberg, of which an account appears in the last number of *L'Art* by M. Auguste Molinier, professor at the Ecole des Chartes. He says, with good reason, that of all the treasures of art which were destroyed during the bombardment of Strasburg in 1870, not one has excited more general regret than this manuscript. It was accepted as an inexhaustible mine of information about the costume, manners, state of education and language of the Rhineland during the twelfth century. Several books were written about it and illustrations of the illuminations have appeared, but the art of photographic reproduction was not perfected in those days, and by no other means can the delightful naïvete of the originals be rendered. During several years M. de Bastard studied the volume and made drawings from it, and at one time he contemplated publishing a complete copy; but war is no respecter of ancient manuscripts, and all that is now feasible is to trust to the partial accounts given by several enthusiasts.

The *Hortus deliciarum* is said to have represented nearly thirty years of labour. The artist Herrade of Landsberg commenced it in 1159, a time when Henry II. reigned in England, and when Thomas à Becket was his joyous companion. She belonged to a noble family, and the ruins of their thirteenth-century castle still exist. Herrade entered a convent in 1141, when a reforming nun held sway, and in her turn the artist, when she became abbess, endeavoured to continue the rule of her friend. One of the aims of both was to introduce a higher education among the nuns, and the *Hortus* was a collection of extracts from the scriptures, the philosophers and fathers of the Church, for the use of the community. The order of the books in the Old and New Testament is followed. The elements of what was then held to be knowledge are introduced. But the aim of the modest encyclopædia was to reveal that much which was said or done in the past should be taken in an allegorical sense, of which the ultimate meaning was the glorification of the Church.

The illustrations form, as it were, a commentary on the text. Byzantine influence is visible in the posing and costume of the figures, but the accessories in many of the illustrations were evidently drawn from objects which existed in the twelfth century, and could be seen from the convent windows. The Queen of Sheba's carriage is, for example, a cubical box or cart without a covering. Around the upper part ornamental borders of two patterns were painted. Wood alone appears to have been used in the construction; the horses are attached by traces formed of very strong ropes, which are fixed to the collars. The plough is also a timber structure. Ulysses and his companion, who watch the casting of the Sirens from their boat into the sea, recall the figures in the Bayeux Tapestry. Some of the nuns have the edges of their outer robe elaborately embroidered, and wear large brooches. Embroidery was apparently much used at the time, for even Anti-Christ's robe is adorned with it.

The drawings were evidently first outlined with a pen, and when the design was completed in that way very simple colouring was introduced. In arranging the colours Herrade wished to suggest that much of the drapery was of the same colour as the parchment employed. Blue, red, pink, orange, green were the colours applied. Gold was used for the nimbi and to express some of the ornament. It is always difficult to produce figures which will inspire terror, and it cannot be said that Herrade was more than grotesque in representing demons. Little attention was given to landscape, but the costumes and household accessories appear to have been drawn with scrupulous care. Figures of women are introduced as frequently as possible. They stand for the various human sciences comprised in the Mediæval "trivium" and "quadrivium," the Nine Muses, &c. Classical poetry was not appreciated, for the ancient poets are shown as if they are being inspired by birds of darkness. It was the desire of Mediæval artists to make their meaning always plain to the unlearned. Hence it is that the Jews are shown as wearing pointed hats and most of them as carrying purses. Satan is always either blue or green in colour, heretics appear like foxes.

Such is an imperfect description of the manuscripts to which M. Molinier devotes an erudite article with outlines from several of the illustrations. His notice will suggest the anxiety of the Director of *L'Art*, while doing justice to modern work, to establish the foundations on which it rests, and which in the Middle Ages largely consisted of materials like the *Hortus deliciarum*.

KING ALFRED MILLENARY AND WOLVESEY PALACE.

The following letter has been addressed by the Bishop of Winchester to the Lord Mayor of London apropos of the Alfred Memorial:—

Farnham Castle, Surrey: March 30.

My Lord,—On January 16 your Lordship, writing on behalf of the Central Association for the Celebration of the King Alfred Millenary, was good enough to address a letter to me as chairman of the Diocesan Trustees of Wolvesey Palace, advocating the acquisition of the ruins of Wolvesey and a portion of the adjoining grounds by the Corporation of Winchester. In accordance with the promise I made in acknowledging the receipt of your letter, I laid it before the trustees for their consideration. Other proposals to the same effect, though not, I think, identical with yours, were laid before the trustees on February 25 by a deputation from the Corporation of Winchester.

I need hardly assure your lordship that the whole matter has received the most attentive consideration of the trustees. The question, indeed, is not a new one. About two years ago a similar, but somewhat larger, proposal came before the trustees. It was, in fact, twofold. It was then suggested (1) that the Corporation of Winchester should take over a portion of the grounds of Wolvesey as a public recreation ground; and (2) that a museum containing Anglo-Saxon antiquities should be erected therein. This latter suggestion, the adoption of which would have added a third museum to the two already existing in Winchester, and would have placed a modern edifice amongst the venerable ruins of Wolvesey, met with very little favour, and is, I believe, no longer advocated by anyone. The other suggestion—that a portion of the grounds of Wolvesey should be alienated from the lessees for the purpose of public recreation—elicited a strong remonstrance from the laymen of the diocese. A representation was drawn up and forwarded to the Ecclesiastical Commissioners, in whom the ownership of Wolvesey is now vested, requesting them to reject any proposal of the kind. This representation was signed by the lords lieutenant of Hampshire and of Surrey, by the high sheriffs of both counties, and by every member of the House of Laymen for the diocese of Winchester. It may be observed that the signatories were all laymen, and that they are all in favour of any well-directed effort to promote the King Alfred commemoration. They are, moreover, as deeply and intelligently interested in the maintenance of ancient and historic buildings as are the representatives of the Central Association, on whose behalf you have written to me. After considering the matter the Ecclesiastical Commissioners informed the signatories that they would not sanction the suggested alienation. Since that time Wolvesey Palace, which had from the year 1895 been used as a central Church house for ecclesiastical purposes of many kinds, and for meetings, exhibitions and other kindred objects, has also become the residence of the mission clergy for the diocese.

The letter which has now been addressed to me states that "the Association are aware that the ruins and the exterior walls surrounding the castle grounds have for long been gradually and appreciably crumbling away, and that, if nothing be done to secure their permanent protection, they are likely to become much reduced and their character greatly altered. The Association are evidently not aware that a considerable expenditure has been recently incurred by the Ecclesiastical Commissioners, under the advice of specially competent advisers, in securing the preservation of the ancient walls, and that there is consequently no fear of the contingency to which reference is made in the letter of the Association. Indeed, it is not too much to say that, but for the fact that these ruins were happily under the custodianship of the ecclesiastical authorities, they would probably have long since shared the fate of the ancient walls and gateways belonging to the city of Winchester, which, with the exception of the Westgate and Kingsgate, have wholly disappeared.

The Association also express an opinion that the Corporation of Winchester are better able to incur any outlay which the future maintenance of the Wolvesey precincts may require than "an ecclesiastical body, whose funds have, no doubt, other urgent or pressing calls upon them." The trustees think it is at least open to question whether a city of some 20,000 inhabitants, with pressing and constantly increasing calls upon the rates, will regard itself as better able to incur these liabilities than such a corporation as the Ecclesiastical Commissioners of England.

The Association are further of opinion that Wolvesey Palace "is not in any way adapted for residential purposes in connection with the cathedral." The trustees would remind the Association that the palace has served as an episcopal residence in former times, and may possibly so serve again, and that, as already stated, it has recently become the residence of the diocesan mission clergy, for which purpose it proves to be admirably adapted.

The cases of Leeds, Rochester, Reading and some other places are quoted where castles or abbeys have been acquired by municipal corporations through gift or purchase, but in none of these instances, as I understand, were the properties so acquired serving useful purposes for a great diocese, purposes which, in the case of Wolvesey, seem likely to be still further developed.

It is stated in the letter that "the acquisition of the fields, with proper protection of the historical ruins, is of national importance." The Association has perhaps been misinformed as to the limited extent of the grounds. Their entire area is about 12 acres, while the only portion which could be converted into a recreation ground is a meadow of less than 4 acres in extent, and it may be remarked that this meadow is now constantly available (by special arrangements) for purposes of recreation. Further, it is important, in view of what has been said, that it should be generally known that all persons who wish to visit the ruins are freely admitted to them under reasonable restrictions.

The trustees of Wolvesey cordially sympathise with the wish of the corporation to acquire a public park or recreation ground for the city of Winchester, and trust that every effort will be made to obtain one suitable for cricket, football and other sports, for which the limited area of the Wolvesey precincts is wholly unfitted and inadequate.

I may conclude by saying that this letter expresses the unanimous opinion of the trustees of Wolvesey, a body consisting of fifteen representative men, both lay and clerical, from all parts of this large diocese.

I desire, my Lord Mayor, to thank you for the kind interest you have been so good as to take in the matter, and, in view of the attention which is happily being given to all that concerns Winchester and its history in connection with King Alfred, I venture to append a short historical memorandum dealing with the subject.

I have the honour to be, my lord, yours very faithfully,

Randall Winton.

The Right Honourable the Lord Mayor of London.

Memorandum on the Early History of Wolvesey.

In view of the fact that the acquisition of the ruins of Wolvesey and the precincts by the Corporation of Winchester has been specially advocated on the ground that the place is intimately associated with King Alfred, it may be desirable to examine this argument. "There," we are told, "Alfred is said to have been educated; there he held his Court for so many years as king; there he edited the Saxon Chronicle."

In reply to these statements it may be observed that, although there is some probability that Alfred's education was superintended by Swithun, bishop of Winchester, there is no historical evidence of the fact, still less that his education took place at Wolvesey. That he originated and, perhaps, directed the compilation of the Saxon Chronicle, is a fairly probable inference from some internal evidence in the Chronicle, which is strengthened by the statements of Gaimar, a French chronicler of the twelfth century; but it is much more likely that the actual execution of the work took place in the scriptorium of the adjacent monastery of the cathedral church than at Wolvesey.

It is not improbable that Wolvesey was a royal residence in Alfred's time, although there is no positive evidence of the fact, but his visits there can have been only occasional, for, after the manner of all the early English kings, he was constantly moving about from place to place.

In truth, we do not get on any firm historic ground respecting Wolvesey until the episcopate of Henry of Blois, the brother of King Stephen. We learn from the twelfth-century chronicler, Giraldus Cambrensis (vii. 46) that this bishop pulled down the palace which William the Conqueror had erected near the cathedral on the north-west side, and that the bishop used the materials to build a grand palace or castle for himself.

Another twelfth-century chronicler, author of the Gesta Stephani (Acts of King Stephen) states (p. 79) that Bishop Henry had a castle in the centre of the city, which we may probably identify with the one that he built on the site of the Conqueror's palace, and that he also fortified his own dwelling, so as to convert it into an impregnable castle in the year 1138. (See also the "Annales Monastici," vol. ii. p. 51.)

The present ruins of Wolvesey are the remains of this castle, which continued to be one of the chief residences of the Bishops of Winchester until it was dismantled by the Parliamentary forces in the civil war of the seventeenth century. The present house was built by Bishop Morley, the second bishop after the Restoration. Thus the castle and the whole of the adjoining grounds enclosed by their ancient wall outside the city have been episcopal property for nearly 800 years. The associations of the spot with King Alfred are slight and shadowy, depending at the best upon probable inference only. At any rate, none of the buildings are of his time. On the other hand, the connection of the castle and the grounds with the Episcopal See has been continuous from the twelfth century to the present day, and the associations of the place with a long line of illustrious prelates are full of interest.

GRAY'S INN, STAPLE INN AND BARNARD'S INN.*

The manor of Portpoole, where now stands *Gray's Inn*, was originally the residence of the noble family of the Grayes of Wilton, from whom the inn takes its name. The manor, including four messuages, four gardens, the site of a windmill, eight acres of land, ten shillings of free rent, and the advowson of the chantry of Portpoole, was in 1505 conveyed by sale to Mr. Hugh Denys and other feoffees, some of whom appear to have been members of Gray's Inn. It is not known at what date it became an inn of court, but a manuscript in Heralds' College, referring to this manor, says, "and estate of this house was taken in the reigne of Kinge E(dward) the 3 tyme by the gentilmen and professors of the comon lawe," &c. It was in 1516 alienated to the prior and convent of Shene, in Surrey, to whom the stewards of Gray's Inn paid a fee-farm rent of 6*l.* 13*s.* 4*d.* After the dissolution of monasteries the treasurer and benchers became tenants of the Crown, by whom it was subsequently sold to Sir Phillip Matthews, and finally in 1733 the Society acquired the property by purchase. Portpool Lane, on the east side of Gray's Inn Road, still perpetuates the name of the manor. Although Gray's Inn is said now to rank fourth among the Inns of Court, those of the Inner and Middle Temple and Lincoln's Inn taking precedence, yet by a survey taken in 1574, the number of its Fellows seems at that time to have exceeded that of any other inn, Gray's Inn having 220, Middle Temple 190, Inner Temple 189, and Lincoln's Inn 160. And its roll shows a list of members certainly not less distinguished than that of the other inns. There were formerly four courts in Gray's Inn, viz Holborne Court (now South Square), Chapel Court and Coney Court (now thrown into one, and since 1793 known as Gray's Inn Square), and Field Court, between Fullwood's Rents and the Gardens, or, as they used to be termed, Gray's Inn Walks. There has since been added Gray's Inn Place and Verulam and Raymond Buildings. Of the original buildings of the inn little is actually known. Dugdale, in 1537, mentions that at that time they were not very commodious, as even the Ancients of the House had to lodge double. He quotes a letter from the Speaker of the House of Commons, Sir Thomas Neville, accepting Sir Christopher Hales, the Attorney-General, as his bedfellow; and in 1579 it was ordered that only the Readers of the Society should have choice of their bedfellows. Some of the old buildings in Coney Court were destroyed by fire in 1684 and rebuilt in 1687, the early records of the Society unfortunately perishing in the same fire Subsequently, the other buildings, owing to their being utterly unfit as chambers, were pulled down and replaced by those now existing. To the end of the sixteenth century the principal entrance was by the "Old Gate" in Gray's Inn Lane. The site of the present entrance from Holborn was purchased by the Society in 1593 from Mr. Fullwood, and the gateway, with house over it, erected shortly after. The Holborn front is of red brick and formerly had a picturesque appearance, but in 1867 it was covered with stucco and its character destroyed.

The Hall is the oldest part of Gray's Inn now remaining. The present building was commenced in the reign of Queen Mary, and completed in 1559, at a cost of 863*l.* 10*s.* 8*d.* It is a handsome chamber measuring 70 feet long, 35 feet wide and 47 feet in height. It has a fine hammer-beam roof of oak, with arched moulded ribs, carved pendants and louvre light, or lantern, in centre. Over the entrance vestibule is the minstrels' gallery, supported by a richly carved Tudor screen. At the opposite end of the Hall is a raised daïs on which is the high table, having on its north side a bay window, characteristic of the period. The windows have stone mullions and transoms, and are filled with a most interesting series of armorial bearings of the principal members of Gray's Inn, many of them dating from the time of Elizabeth. The walls below the windows are oak wainscotted, and bear the arms of the Treasurers of the Society. The portraits of Queen Elizabeth (painted in 1559, the year after her accession), Kings Charles I., Charles II. and James II, Sir Francis Bacon, Lord Chief Justice Coke, Lord Raymond and others hang upon the walls. The handsome carved screen and some of the tables now in use are said to have been given to the Society by Queen Elizabeth, and it is an interesting fact that to this day the toast of "The glorious, pious and immortal memory of good Queen Bess" is the only one ever given at their banquets, and is still solemnly drunk in Hall on every grand day.

The earliest reference to the library is in the will, dated 1555, of Robert Chaloner of Stanley, a Reader of Gray's Inn in 1521, and a short quotation from it may be of interest:—"I will that all my bookes of Lawe . . . yf theie can be conveied, hadde, or caryed by any means to Grauisin, to my cosin, Robert Nowell, and then xls. in moneye . . . that he may by cheines therwith and fasten so many of them in the Librarye at Grauisin," &c. Among other benefactors to the library were Sir John Finch (1634), Sir John Bankes, Sir Richard Hutton (1635), Nathaniel Bacon and Lord Verulam. The library in 1689 only contained about 320 books, but by 1737 it had so increased that an order was passed for building a library in Holborn Court, with steward's offices, &c. In 1840-41 this was enlarged by the erection of two additional rooms, and in 1883 a new library facing Gray's Inn Lane and adjoining the other rooms was built, the architects being Messrs. Isaacs & Florence. There are now about 15,000 volumes in the library, chiefly legal works, and, in addition, there is a valuable and interesting collection of manuscripts, twenty-four in number, dating from the twelfth century.

The chapel stands upon the site of the ancient chantry of Portpoole, which was licensed by Edward II. in 1315 to John, the son of Reginald de Grey, who was authorised to assign to the Prior and Convent of St. Bartholomew in Smithfield 30 acres of land, 2 acres of meadow and 10*s.* in rent, with the appurtenances in Kentish Town and in the parish of St. Andrew, Holborn, for the purpose of providing a chaplain to celebrate divine service daily in the chapel of his manor in "Portpoole" for the soul of the said John and his ancestors for ever. But according to the accounts of that monastery they paid the Society of Gray's Inn 7*l.* 13*s.* 4*d* annually for the salary of the chaplain instead of themselves providing one. After the dissolution of monasteries, by a decree of Henry VIII. issued in 1541, the Treasurer of the Society received a yearly sum of 6*l.* 13*s.* 4*d.* from the Crown. This payment ceased during the Commonwealth and was never renewed. The chapel is very small, but in its present state conveys an appropriate feeling of repose and tranquillity, much taste having been displayed in the restoration made a few years ago. In the existing records of the Society the chapel is first mentioned in 1569, when it was ordered that a pulpit be prepared in the chapel, the partition removed and stalls made.

In 1619 the chapel was enlarged, and in 1689 it was ordered that a model be prepared for a chapel to be newly erected for the Society, the treasurer being desired to promote the said building by obtaining contributions. Nothing apparently was then done, for nine years later an order was made "that the chapel, being much in decay and very ruinous, be forthwith taken down, so far as shall be thought fit," and the assistance of surveyors obtained to repair, alter, or model the chapel in the best manner they can, the treasurer to furnish the money out of Lady Allibone's fine. Hutton, in his "New View of London," says in 1699 the chapel "was beautified and repaired, the walls being covered with a handsome finishing." The latest restoration was carried out by Mr. C. H. Shoppee, F.R.I.B.A., in 1893. The pulpit is the same that was placed in the chapel in 1569, as recorded above, the rest of the woodwork being all new. The west window is filled with stained glass representing Archbishops Whitgift, Juxon, Becket, Wake and Laud, in the order named, while those on the north side contain some of the old glass bearing the arms of Archbishops Juxon, 1660; Sheldon, 1664; Wake, 1715, and others.

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* A paper read by Mr. Frank E. Spiers before the members of the Upper Norwood Athenæum in the Hall of Gray's Inn on March 23.

The gardens were at one time a very fashionable resort. Howell describes them in 1621 as "the pleasantest place about London, with the choicest society." They were laid out by Francis Bacon in 1597, various orders appearing in the books of the Society for the payment of sums to Mr. Bacon "for planting trees in the walks" . . . "for more young elme trees and a new rayle and quicksett hedge to be set uppon the upper long walk," &c. Bacon was a great lover of gardens and flowers. In his essay "Of Gardens" he says:—"God Almighty first planted a garden. And indeed it is the purest of all pleasures. It is the greatest refreshment to the spirits of man." Bacon erected a summer-house on the west terrace in 1609, where now stands Raymond Buildings, to the memory of his friend Jeremy Bettenham, a Reader of Gray's Inn, and he describes it as raised on "a mount of some height, leaving the wall of the enclosure breast high, to look abroad into the fields." From this spot there was an uninterrupted view as far as Hampstead and Highgate. Pepys frequently mentioned the gardens in his "Diary." "June 30, 1661, Lord's day.—Then I to Graye's Inn Walks, all alone, and with great pleasure seeing the fine ladies walk there." "May 4, 1662—When church was done my wife and I walked to Graye's Inn to observe the fashions of the ladies, because of my wife's making some clothes." Charles Lamb, in his "Essays of Elia," in describing the charms of the gardens says:—"They are still the best gardens of any of the Inns of Court—my beloved Temple not forgotten. . . . Bacon has left the impress of his foot upon the gravel walks." An old London rhyme says:—

"Gray's Inn for walks, Lincoln's Inn for wall,
The Inner Temple for a garden, and the Middle for a hall."

A few rooks still build every year in the trees, though at times they have been greatly disturbed, and a long list of birds might be mentioned that are known to frequent this quiet and hospitable retreat.

It would be impossible in the limited space at my disposal to give an adequate list of the eminent members of Gray's Inn, but there are some that I feel must not be omitted from this paper. I therefore give a brief record of them.

Sir William Gascoigne, Reader of Gray's Inn and Chief Justice of King's Bench, 1400; he committed the Prince of Wales, afterwards King Henry V., to prison for contempt of court. Thomas Cromwell, admitted 1524, secretary to Henry VIII., Master of the Rolls and Lord Privy Seal 1535, Earl of Essex 1540. Stephen Gardner, secretary to Cardinal Wolsey, Bishop of Winchester and Chancellor of England 1531. Nicholas Bacon, Knt., admitted 1532, Lord Keeper 1559. William Cecil, Knt., admitted 1540, Secretary of State 1547, Baron Burleigh and Lord High Treasurer 1598. Francis Bacon, Knt, admitted 1576, Bencher 1586, Treasurer of the Inn 1609, Lord Keeper 1617, Lord Verulam and Lord High Chancellor 1618, Viscount St. Albans 1621, and he died at his chambers in Gray's Inn in 1626. David Jenkins, the patriotic Welsh judge, admitted 1602, and Bencher 1660. Sir William Dugdale, author of "Origines Juridiciales," from which so much valuable information has been obtained connected with the Inns of Court; and William Camden, the antiquary.

Among the residents of Gray's Inn have been Dr. Johnson 1758, Goldsmith, Southey 1797, Rawlinson, Cobbett, John Britton, Ritson the antiquary, Lyell the geologist, W. J. Broderip the naturalist, John Hampden, John Aubrey the antiquary, Shirley the dramatist, and Lord Macaulay 1819 to 1830. Jacob Tonson, Pope's publisher, Henry Tomes, the publisher of some of Bacon's works, and Thomas Osborne, the purchaser of the Harleian Library, all had their shops in Gray's Inn gateways.

An account of Gray's Inn would not be complete without some description of the masques and revels for which the Inn was so celebrated in the sixteenth and seventeenth centuries. By the following quotation from Fortescue's "De Laudibus Legum Angliæ," it will be seen that the legal brethren did not make law their only study:—"There is in the Inns of Court a sort of academy fit for persons of their station, where they learn singing and all kinds of music, dancing and such like accomplishments and diversions, which are called revels, as are suitable to their quality, and such as are usually practised at court. At other times, out of term, the greater part apply themselves to the study of the law." Bacon took the greatest interest in these festivities, and assisted in the composition and superintendence of the revels of Gray's Inn, at times dancing and performing with the rest of the members. The first masque recorded as having taken place here was in 1525. It was compiled by John Roo, serjeant-at-law, and gave great offence to Cardinal Wolsey, who imagined he had been satirised by one of the characters represented. He took from Master Roo his coif, and sent him to the Fleet, together with Thomas Moyle who played the part. In 1566 the "Jocasta," of Euripides was acted in the Hall, and in the same year "The Supposes" from the Italian of Ariosto. The tragedy called "The Misfortunes of Arthur" was played by members of the Society of Gray's Inn on February 28, 1587-88, for the entertainment of Queen Elizabeth at Greenwich. The "Revels of the Prince of Purpoole," which took place in 1694-95, appear to have surpassed all others in its costly grandeur and riotous excess, Henry Helmes, a member of the inn, being the Prince. A pamphlet, entitled "Gesta Grayorum," describes how "on December 20, being the eve of St. Thomas, the Prince of Purpoole, with all his train in order, marched from his lodging to the great Hall, and there took his seat at the throne, under a rich cloth of state, with his councillors and great lords about him." The speeches of the six councillors were believed to have been written by Bacon. The performance so exceeded the expectation that, "besides the daily revels and such-like sports which were usual, there was intended divers grand nights for the entertainment of strangers." The Templarians were guests on the first of these nights, but the Hall was so filled with spectators that there was no room for the actors, and the Templarians left "discontented and displeased." The entertainment was continued with dancing and revelling with the gentlewomen, and finished very appropriately with the performance of Shakespeare's "Comedy of Errors," perhaps the first performance that had been given of this play. The Prince and his company held state for the last time at Shrovetide when they entertained Queen Elizabeth at Greenwich. On the day following the gentlemen were presented to the Queen, when "Her Majesty gave them her hand to kiss with most gracious words of commendation to them, particularly and in general of Gray's Inn, as an house she was much beholden unto, for that they did always study for some sports to present to her." A costly masque was performed before James I. on February 20, 1612-13, the occasion being the marriage of the Count Palatine with the Princess Elizabeth. The "Masque of Flowers" was presented at Whitehall in 1613-14 before the king, the whole cost of this—2,000*l.*—having been borne by Sir Francis Bacon. The masques and revels were continued from time to time, the last being given on February 2, 1733, to celebrate the elevation of Mr. Talbot to the Woolsack, and on this occasion, we are told, the master of the revels took the Lord Chancellor by the hand, and the other serjeants and benchers being joined hand in hand, forming a large ring, all danced round the central fire three times, Tony Aston singing the ancient song "Round about the old coal fire," accompanied with music.

Attached to each of the four inns of court were certain inns of Chancery, in which formerly the junior students-at-law underwent a preliminary course of reading and study prior to entering an inn of court; they, in fact, maintained towards the legal university of London a similar position to that of our public schools to the universities of Oxford and Cambridge. Appertaining to Gray's Inn as inns of Chancery were Staple Inn and Barnard's Inn.

Staple Inn, as its name suggests, was formerly a hostel of the wool-staplers, and its coat-of-arms has always been a woolsack. Edward III. in 1353 removed the wool market to Westminster, but it is not known if Staple Inn was occupied by students of law or became an inn of Chancery before the reign of Henry V. In 1529 it passed by inheritance from John Knighton to the Ancients of Gray's Inn. In the reign of Elizabeth, Staple Inn had the largest number of students of any of the Chancery inns, viz. 145 in term time and 69 out of term. The inn now belongs to the Prudential Assurance Company, and the old hall is the headquarters of the Society of Actuaries. The old half-timber houses, with their quaint gables, facing Holborn, date from the reign of James I., and are the best specimens of this style remaining in London. The inn comprises two courts and has a well-proportioned hall, with hammer-beam roof and louvre light. At the west end of the hall is a Tudor screen, with minstrels' gallery above. The windows are filled with stained glass bearing the arms of the principals of the inn. The chambers on the west side of the Inn were destroyed by fire on November 27, 1756, but fortunately the hall was spared. Dr. Johnson, after leaving Gough Square on the completion of his "Dictionary," lived in Staple Inn, and while here wrote his story of "Rasselas." Boswell says "that with the profits he might defray the expenses of his mother's funeral." He moved to Gray's Inn in 1758. The celebrated Shakespearean scholar, Isaac Reed, also had chambers in the inn, on No. 11 staircase, and died here on January 5, 1807.

Barnard's Inn was originally the residence of Dr. John Mackworth, who was dean of Lincoln in the reign of Henry VI. He bequeathed the property to the Dean and Chapter of Lincoln, by whom it was leased to Lyonel Barnard, and from whom it takes its name. Stowe in his "Annales" states that in 1454 a great fray took place in Fleet Street, which resulted in the principal governors of Clifford's Inn, Furnival's Inn and Barnard's Inn being imprisoned in Hertford Castle. It was therefore an inn for students of the law at that early date. In Queen Elizabeth's reign there were in Barnard's Inn 112 students in term time and 24 out of term, and it was governed by a principal and twelve Ancients, a Reader being appointed from Gray's Inn. It was purchased in 1892 by the Mercers' Guild and opened in 1894 as their school, most of the old chambers being pulled down and appropriate buildings erected in their stead. During the Gordon Riots in 1780 the mob attacked and burnt down Langdale's Distillery, adjoining the inn, many of the chambers of the inn being destroyed by the fire. The hall, built in the reign of Henry VI., 1450, is all that remains of the old inn; it is a small red-brick building, with large wooden-framed windows containing armorial bearings, the principal being that of Lord Chief Justice Holt, some time principal of the inn. Peter Woulfe, F.R S., a celebrated alchemist, had chambers at the beginning of the last century in the inn, and here he died, leaving the "elixir" still unrevealed.

In conclusion, I wish to express my indebtedness for valuable information obtained from the following works:—"Gray's Inn, its History and Associations," by W. R. Douthwaite, librarian; "London, Past and Present," by Wheatley and Cunningham; "Old and New London," by Walter Thornbury, and "Chronicles of an Old Inn," by Andrée Hope. To Mr. Douthwaite my thanks are especially due for assistance he has given me personally in preparing my paper, and I would add that if any of my readers wish to learn fuller details in connection with this interesting old inn, they will find in Mr. Douthwaite's volume a wealth of facts contained in the many legal and historical documents he has published therein.

PUBLIC ART.

THE seventh free picture exhibition of the borough of West Ham in the Public Hall, Canning Town, was opened by Mr. H. Furniss. The Mayor of West Ham presided. About 156 pictures have been lent for exhibition.

Mr. Furniss, in declaring the exhibition open, delivered an address in which he chiefly dealt with public art, and criticised the statues and monuments which were placed in the streets and public places of the great towns of this country. These free picture exhibitions, he said, were held as an antidote to the unloveliness and the sorrows of city life, and the success of the exhibitions was sufficient to show the excellence of the object, but there was a permanent exhibition outside which was unlimited, unedited and unrelieved. They had recently heard a great deal about the man in the street. Politicians consulted him; the newspapers respected him; in fact, he was that unknown power and quantity, the public. The man in the street had his own impressions and opinions. Impressionism was now part of our nature. If the man in the street was without impressionism he was nothing. When would they have art impressionism as well as imperial impressionism? We have recently made public our imperial instincts, but how long must it be before we made public our art instincts; how long, in fact, would the man in the street tolerate the art in the street? The question of the style of our statues and monuments was raised at a great and solemn public meeting at the Mansion House last Tuesday, when Sir William Harcourt said:—"We have much to be proud of and to be thankful for, but I do not think we can boast of our monuments. This we believe to be an age of progress, and it is more necessary that we should progress in our capacity for monumental commemoration. I hardly know of one that, even in this great Metropolis, the greatest city in the world, is deserving either of the greatness of the empire or the greatness of the city." He himself agreed with those remarks, and would assert that the man in the street had a right to be protected from these ugly masses of masonry and dead black figures which offended the eye generation after generation. The two things which always struck him when he entered an English town were the crookedness of the lamp-posts and the ugliness of the statues. In the end the alteration of these things must be left to the man in the street. He could not see where the satisfaction came in for worthy members of society to have their ugly figures dressed in badly-fitting clothes put up in public places and handed down from generation to generation. There was little doubt that favouritism was directly responsible for a great deal of the bad work in our public streets, and he might be permitted to give it as his opinion that that would be the rock on which this great proposed memorial to the Queen about which they heard so much would split. They were at present on their mettle, trying their best to show the world that they could at least produce one memorial worthy of this great country, but that would never be arrived at until it was open to everybody, no matter in what walk of art, to send in suggestions or models which might be submitted to public view and the public judgment taken upon them. He wanted to revolutionise the whole of the monuments and statuary in England; he wanted a committee formed which he might call the "public art reform committee," and that committee should go through not only London, but the whole country, and report upon the statues which ought to be underground. They might keep some statues as pillories to public men, and not as monuments to their memory, as was at present the case. It might be well that some of the houses in which celebrated men had lived should be preserved. At the present time there was some agitation about Hogarth's house, and it would be a great shame if it were not preserved and acquired by the nation. But in the matter of their public monuments more taste and regard for congruity should be observed. For instance, Cleopatra's Needle was as much out of place on the Thames Embankment as a London omnibus would be on the banks of the Nile. It was by such exhibitions as the one he now declared open that they were educating the East-ender to teach the West-ender something in the matter of artistic taste.

The exhibition will remain open until the middle of the month.

DISCOVERIES IN CHINESE TURKESTAN.

BY order of the Indian Educational Department Dr. M. A. Stein is carrying out, under the orders and at the expense of the Indian Government, a systematic exploration of some of the ancient sites in the desolate region of the Takla Makan Desert in Chinese Turkestan, which was overwhelmed by sand about the beginning of the Christian era. For a number of years past it has been recognised that this old civilisation was, to some extent at least, of Indian origin. The most ancient coins found in the neighbourhood bear inscriptions both in Chinese characters and in the alphabet, now usually called Kharoshthi, which is found on the coins and inscriptions of the Indo-Scythic rulers of North-west India in the first century of our era, and many of the manuscripts of paper and birch-bark which have more recently been obtained from the same part of the world are written in Indian characters. Dr. Stein's discoveries place this conclusion beyond doubt. At Dandan-Uiliq, in the desert, nine days' march to the north-east of Khotan, the manuscripts discovered were chiefly of paper, and as the buildings chosen for excavation were chiefly ancient Buddhist shrines, their contents were, as might naturally have been expected, chiefly religious in character. Curiously enough, these manuscripts were written in a variety of the other Indian alphabet of the period to which the name Central Asian Brahmi has been given.

The excavations which have been continued in another part of the desert, to the north of the present Mohmamedan shrine of Imam Jafar Sadik, where the river Niya disappears in the sand, have been even more fruitful of results. Here the wooden houses and Buddhist monasteries, situated amid the orchards and the avenues of trees, the trunks of which still remain in the ground, have yielded up great numbers of inscribed documents, as well as works of art, household objects and antiquities of every kind. From one find alone more than 500 wooden tablets inscribed with Kharoshthi characters were recovered. The contents of these seem to be correspondence of both a private and an official character; and it is quite possible that we may eventually gain from this source an interesting glimpse of ancient life such as the papyri of Egypt have recently afforded us. In some cases the original clay seals, by which the validity of the documents was attested, and the very string by which they were fastened have been preserved intact. The art of these seals, moreover, is said to bear traces of the Græco-Roman influence, which has long ago been recognised in the sculptures of the extreme North-west of India, which have been brought to England in such quantities since the recent military operations on the frontier. One of these seals, for instance, bears the figure of Pallas Athene, armed with shield and ægis, as she so often appears on the coins of the Græco-Indian princes of the Cabul Valley and the Punjab. Not the least important point about the inscriptions themselves is that they are in many cases dated in the year of the reigning Sovereign.

There can be little doubt that these discoveries will prove to be of the utmost interest for the early history of Central Asia. Much patient work in deciphering will have to be accomplished before their evidence is available, but there is at least a reasonable hope that when this work is done we shall have recovered some at least of the outlines of a lost chapter in the history of mankind.

The National Photographic Record Association held a meeting with Sir J. Benjamin Stone, M.P., in the chair, at which 101 prints were received from Mr. G. Bingley, Leeds, and a selection of views of Old London from the Duke of Bedford, J. W. Marchant and E. Scamell. The total number of prints received and promised now amounts to about 2,000. The value of photographic survey work has been generally recognised, and societies have been started in Switzerland, Belgium and Sweden.

NOTES AND COMMENTS.

The discovery of the tablets with letters or signs of an unknown character at Cnossus by Mr. A. J. Evans has given rise to the belief that the letters were allied to the later forms of Hittite. Colonel Conder, who while engaged in archæological surveys has made a special study of the subject, says, in a letter to the *Times*, that they are not Hittite, and they present many new symbols. They are not written in vertical groups, as in Hittite, but in horizontal lines from the left. They accompany an art like that of Mycenæ, and the racial type in the frescoes appears to be Greek. Colonel Conder considers it is probable the texts are written in some Archaic dialect of Greek—a conclusion which seems to be supported by the accompanying art. It is, however, becoming generally recognised, he says, that the art of the Ionians, Carians, and other Aryans in Asia Minor was, to a great extent, borrowed from the older so-called "Hittite" tribes of the same region. The labrys, or double axe, of Crete was a Carian weapon, but it was also used by Hittites, and votive axes, such as occur in Crete, are also found in Babylonia bearing Kassite inscriptions. Clay tablets were used in Cappadocia as early as 2000 B.C., and one in Hittite characters has been found. These and other facts point to the diffusion of the old Hittite civilisation among the Ægean populations, perhaps about 1500 B C; while, on the other hand, the most recent discoveries all serve to connect that civilisation with the earliest Mongolic population of Babylonia.

The Slade Professorship of Fine Art for Cambridge University, which was first held by the late Sir M. Digby Wyatt, is again vacant, and the election to the office will take place on May 11. The Professor receives a stipend of about 340*l.* a year, and holds the office for three years. He is not required to reside. He is to deliver annually in the University a course of not less than twelve lectures on the history, theory and practice of the fine arts. The lectures must be delivered in full term and free of charge as regards members of the University. The outgoing Professor is eligible for re-election. The electors are the Vice-Chancellor, Mr. Austen Leigh (Provost of King's), Sir Richard Jebb (Regius Professor of Greek), Dr. Sandys (the Public Orator), the President of the Royal Academy, the President of University College, London, and the Director of the Art Museum, South Kensington. Candidates are requested to send their names to the Vice-Chancellor on or before May 3. Another vacancy at Cambridge is the Craven Studentship, which is of the value of 200*l*, and is held for one year, but the holder can be reappointed on two occasions. It is open to graduates of not more than five years' standing from the completion of their first degree. The Studentship is endowed for the furtherance of advanced study or research away from Cambridge in the language, literature, history, archæology, or art of ancient Greece or Rome, or the comparative philology of the Indo-European languages. The managers will at the same time consider applications for grants out of the annual sum of 40*l.* placed at their disposal for the furtherance of research in the above mentioned subjects.

An important arbitration case has been settled at Birmingham. In August last an action was brought at the Assizes by Mr. George Crouch, of Hockley, to recover the cost of 133 houses erected at Selly Oak for Mr. W. Roberts, estate agent. Birmingham. The jury formally found for the plaintiff, but it was decided to leave the amount to be paid to the determination of an arbitrator. Mr. L. Morton Brown, barrister, was selected to preside. Plaintiff's surveyors, Mr. A. Harris and Mr. G. Kenwrick, estimated the cost of the houses at 24 642*l.* The estimate of the defendant's surveyors, Mr. A. Edward and Mr. S. T. Holliday, was only 14 228*l.* The award of the referee puts down the cost at 20 575*l.* 9*s.* This amount is only about 600*l.* above the mean of the two valuations. A sum of 1,125*l.* is added for profit. After allowing for the sums already paid, the balance due to Mr. Crouch is 6,231*l.* 9*s.*

Although he was accepted as a typical Parisian, the late Charles Garnier had not secured a sufficient hold on the minds of his fellow citizens to compel them to be expeditious in raising a memorial of him. The conditions were unusually favourable; the Opera House remains, however, without the bust which is to recall the features of the architect of the building. The Minister of Fine Arts has removed some of the difficulties by allowing M. Pascal, who designed the architectural part of the memorial, to take from the Government depôt any granite which can be utilised for the lower part of the work. French granite is, however, rarely of a pleasing colour, and M. Pascal, disregarding national prejudices, has wisely determined on obtaining from Aberdeen all the red granite which will be required for the most important of the architectural accessories. The stone will be dressed and sent ready for erection in the Rue Auber. The emblematic figures have been executed by M. Thomas, the sculptor, one of the oldest friends of the late architect. It will be seen, therefore, that although so long delayed the memorial of Charles Garnier is not among the abandoned projects of French enthusiasts, and some day we may also expect to learn the whereabouts of the street in Paris which is to bear his name.

Sir John Soane was an oddity, but on that account he was not unique among his contemporaries. When gathering his collection he must have had an idea which he attempted to realise, but what it was posterity has failed to discover. His collections are too numerous for the space afforded by his house, which to some extent resembled its designer, for it cannot be called commonplace. The financial condition of the museum in Lincoln's Inn Fields can be judged from the annual statement of the trustees, which by Act of Parliament has to be laid on the table of the House of Commons. The accounts, which are brought down to January 5, 1901, show that on January 5, 1900, the balance remaining in the Bank of England to the credit of the trustees was 633*l.* 1*s.* 3*d.* In addition the income for the twelve months amounted to 1,309*l.* 16*s.* 10*d.* The repairs of premises last year cost 301*l.* 6*s.* 10*d.*, while 109*l.* 7*s.* was paid to extra servants during the period for which the museum was open to the public. The balance in the hands of the trustees on January 5 last was 454*l.* 11*s.* 2*d.* The income-tax refunded in the course of the year amounted to 107*l.* 4*s.* It is a misfortune the museum is not more generally appreciated, for there is much in it which is interesting, and all the objects can be easily studied.

A committee, consisting of representatives of the Society of Antiquaries, the Wilts Archæological Society and the Society for the Protection of Ancient Buildings, has been considering the subject of the preservation of Stonehenge. The committee approves of the erection of a wire fence not less than 4 feet high, following on two sides the existing roads and crossing on the west from the 331-foot level on the north road to the 332-foot level on the south road shown on the Ordnance Survey map. The committee recommends without prejudice to any legal question that the local authorities be requested to agree to divert the existing trackway or ridgeway from Netheravon now passing through the earth circle so as to pass from the 302-foot level to the 331 and 332-foot levels in the O. S. map immediately west of Stonehenge. Stones 6 and 7, with their lintel, and stone 56 (according to the numbering on Mr. Petrie's plan) should be first examined, with a view of maintaining them in a position of safety. Stone 22 should be replaced, stone 21 be made safe, and the lintel of 21 and 22 be replaced in the most safe and conservative manner. The re-erection of stones 57 and 58 and their lintel 158 is also recommended. The instructions to custodians already in force are approved with a few suggested alterations.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: THE GREAT STONE SCREEN. VIEW ACROSS NAVE TO NORTH TRANSEPT.

COMBE LAMMAS, ESHER.

SHOPS AND DWELLINGS, FINCHLEY ROAD.

HOUSE AT MARLOW.

LODGE AT MARLOW.

ST. MATTHEW'S, CHAPEL ALLERTON, NEAR LEEDS: SOUTH AISLE.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

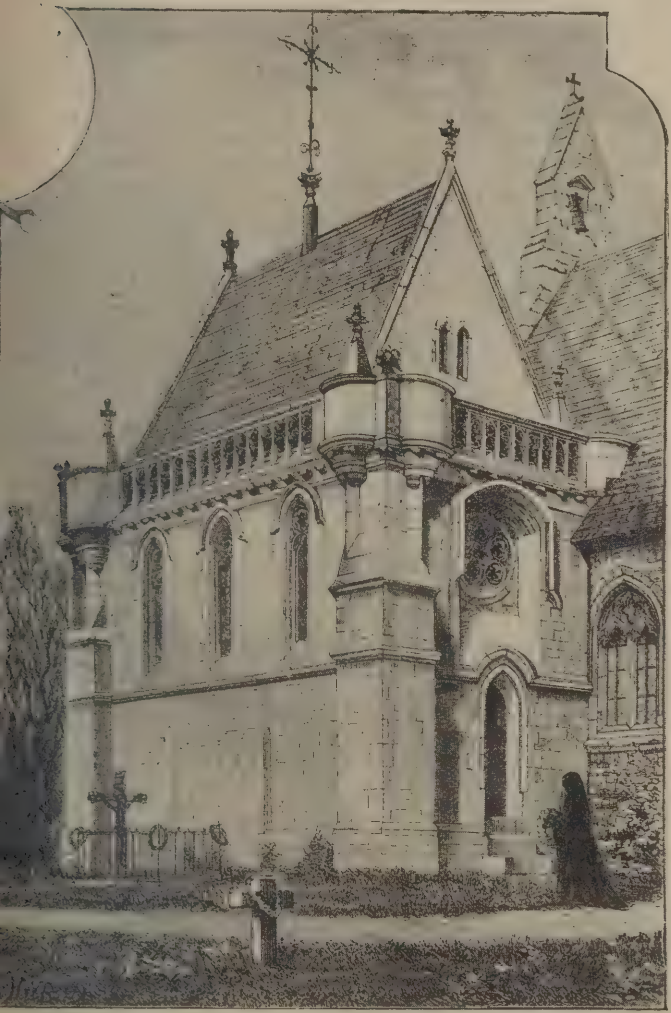
By T. Francis Bumpus,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

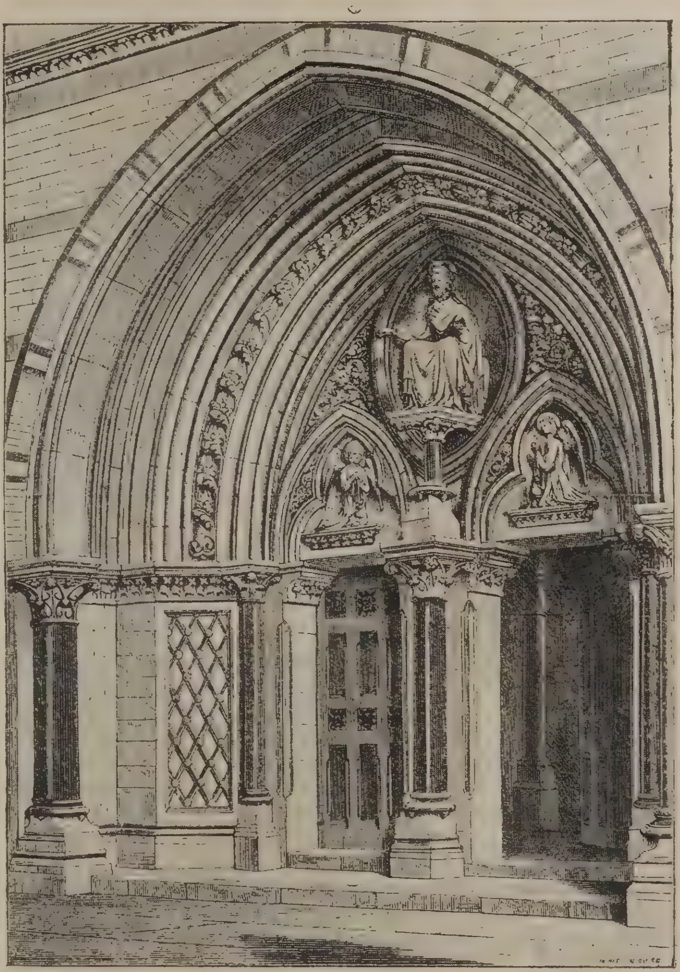
A BRIEF REVIEW OF ECCLESIOLOGICAL PROGRESS, 1855 TO 1875.

(*Continued from page* 164.)

At Frome Selwood, Mr. C. E. Giles's costly re-edification of the parish church of St. John Baptist, under the guiding eye of the Rev. W. J. E. Bennett, had reached completion in 1866, and a year or two earlier a church—very meritorious, though in some details open to criticism—had been built at Ventnor, on the road to Bonchurch, by the same hand.



The Napoleon Chapel, St. Mary's, Chislehurst.
(*Henry Clutton, Architect*, 1874.)
(From a drawing by H. W. Brewer.)



Doorway of the Pro-Cathedral, Kensington.
(*G. Goldie, Architect*, 1867.)
(From Eastlake's "History of the Gothic Revival."

In the neighbourhood of Bristol Mr. John Norton's churches of Stapleton—to which Bishop Monk was so liberal a contributor—St. Paul's, Bedminster, whose instrumenta became the subject of some litigation, and a First Pointed tower and spire for the pseudo-Gothic Christ Church, Clifton, deserve mention, while a sumptuous Italian Pointed basilican church at Totterdown, by Mr. W. V. Gough, found many admirers. St. John Evangelist's, Middlesbrough, must be mentioned as the most important of the numerous churches built in other parts of the country at the same period by Mr. Norton.

At Brighton such churches as St. Bartholomew's, St. Martin's, St. James's,* St. Mary's* and that of the Resurrection were destined to completely revolutionise the ecclesiology of London-super-Mare, while in the same county Mr. Slater, who was associated with Sir G. G. Scott in rebuilding the spire at Chichester, was busied with the task of refitting that cathedral's choir. Several works left incomplete by Richard Carpenter at the time of his death in 1855 were carried on to completion by Mr. Slater, in particular a church at Burntisland, in Fifeshire, and the restoration of Sherborne Abbey choir. SS. Simon and Jude's Church, Earl Shilton, the chapel of St. John's College, Hurstpierpoint, and the restoration, as far as funds would allow, of that noble Norman fragment, the choir of St. Bartholomew's, Smithfield, are a few of the works upon which Mr. Slater was engaged contemporaneously with those at Chichester, and early in the seventies he began the imposing red brick chancel and adjoining clergy house of St. Mary Virgin, Soho.

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* Both built on the sites of shabby proprietary chapels of nondescript architecture, in which class of religious edifice Brighton then abounded. The former was for several years the scene of the ministrations of Rev. John Purchas, who, from his having compiled the "Directorium Anglicanum," was looked upon as a sort of apostle of ritualism, whereas he was nothing of the kind, but "gentle, kindly and humble minded," a scholar and a poet. The troubles to which he was subjected were no doubt brought about in a great measure by over-zealous friends and helpers not always of the best and wisest, and whose ultra-ritualism helped to involve their pastor in litigation, which doubtless hastened his death in 1872.

In the Western Midlands a small church built by Preedy for Earl Beauchamp at Madresfield must not be forgotten, nor his reconstruction, in quite an opposite county, of Hunstanton Church, inseparably associated with his fellow artist and admirer, Styleman Le Strange. St. Mary-le-Tower, Ipswich, a stately specimen of a Suffolk town church, *intus et in cute* Third Pointed, was undergoing reedification about the same period from Mr. Phipson's designs. Further north, Mr. Fowler, of Louth, was adhering to English traditions in St. Swithin's, Lincoln, while the same characteristics are observable in the nave and chancel of St. Mary's, Lichfield, and in the large new parish church of Newington, where, without hypercriticism, it may be remarked that more height and less breadth would have been better.

In Durham, Mr. C. Hodgson Fowler was doing much good, solid work. Mr. Crossland's churches of St. Stephen, Copley, near Halifax; St. Chad, Far Headingley, Leeds, and St. Andrew, Huddersfield, presenting as they did temperate departures from ancient models, secured many admirers, and were much praised by *The Ecclesiologist*, which at the period of their erection was regrettably drawing to its close.

Messrs. Austin & Paley's Lancashire churches of Holy Trinity, Bury; SS. Matthew and James, Mossley Hill, near Liverpool; St. Lawrence, Morecambe; St. Peter, Bolton-le-Moors, and the Roman Catholic church at Lancaster, are all fine solid English-looking structures, remarkable for the excellence of their mouldings and window tracery. The Mossley Hill church is a particularly noble example of these architects' skill, the only regrettable feature being the cutting off of the upper portion of the grand east window by the two arches which, spanning the church transversely, carry the tower. Had the chancel been kept somewhat lower, as at St. Matthias, Stoke Newington, where the tower arches are equally low-pitched, this unpleasant effect might have been avoided.

In the same county the works of Mr. J. S. Crowther must not be overlooked. One of his earliest and most important churches—St. Mary's, Moss Lane, Hulme, built by Mr. Wilbraham Egerton of Tatton—was finished in 1858, St. Mary's, Crumpsall, St. Alban's, Waterloo Road, Cheetham, and the parish church of Bury, always regarded by Bishop Fraser as "the gem of the diocese," being later efforts. All exhibit the greatest refinement and knowledge of detail, due to their architect's early and indefatigable researches in this direction as exemplified in his "Churches of the Middle Ages," put forth during the later forties in conjunction with Mr. Bowman.

Of modern Scottish ecclesiastical architecture Mr. Butterfield's cathedrals of St. Ninian, Perth, and the Holy Spirit, at Cumbrae, belong to the first or imitative phase of the ecclesiological movement, with, of course, as might be expected from their architect, certain eclecticisms.

To the inventive phase we may assign Sir Gilbert Scott's majestically-situated cathedral of St. Paul and Mr. G. F. Bodley's St. Salvador, both in Dundee, and already alluded to. Less grandiose, perhaps, but abounding in much delicate detail, is the cathedral of Inverness from Mr. Ross's plans, cruciform, with a pair of western towers hereafter to be crowned with spires, a graceful flèche at the intersection, lean-to aisles to nave and choir, and a pentagonal apse. The non-projection of the transepts beyond the line of the aisles shows the architect to have been not unmindful of ancient Scottish precedent.

Beautiful as is Inverness Cathedral in many points, it is surpassed in point of originality of conception by St. Mary's, Carden Place, Aberdeen, which, though small, is perhaps the most richly and perfectly appointed church built in Scotland since the Reformation. In progress between 1860 and 1864 it was due mainly to the great ritualistic and antiquarian knowledge of Rev. Dr. F. G. Lee, with some professional assistance from Mr. Alexander Ellis, and hints from Messrs. Street and G. T. R. Gordon, both of whom took much interest in the work during its progress.

It is in Scotland that two of Mr. Goldie's earliest conceptions are to be met with—the Roman Catholic churches of St. Mary at Lanark and Greenock—both built between 1857 and 1861. A little later we have his St. Peter's, Scarborough, St. Wilfred, York, and St. Scholastica's Abbey, Teignmouth, all carried out in that vigorous Early Foreign Pointed for which their architect at that time entertained a predilection. The Pro-Cathedral at Kensington, somewhat later in feeling than his, in many respects, analogous work at York, chiefly as regards its fenestration, is perhaps, for its height, disappointingly short; but for this, owing to the restricted site, Mr. Goldie could not be held responsible. Its western portal is a truly noble feature, though at present not seen to advantage.

Other Roman Catholic architects who were enjoying much reputation during the two decades now under consideration are Mr. Henry Clutton, who added the sumptuous chapel of the Sacred Heart to Scoles's church in Farm Street, and the Napoleon Chapel to the unpretending little English Gothic church on Chislehurst Common, both early thirteenth-century Gothic of a foreign cast; and Mr. J. F. Bentley, to whom are due the baptistery at St. Francis, Notting Hill, and additions to the unsatisfactory Gothic nave of St. Mary of the Angels, Bayswater, both in the un-English style then so fashionable, if such a term can be used. Decidedly meritorious, but hardly to be pronounced great works, are Mr. Buckler's churches of St. Richard at Slindon, St. Edward, Windsor, and the Convent of Our Lady at Chichester; and the same remarks apply to those by the Messrs. Hansom at Bath, Marychurch and Portsmouth; their Downside Priory, near Chardstock—on the motif, it is presumed, of Pontigny—is as thoughtful as any, while of the numerous churches dotted over the face of the country by Edward Pugin—nearly all of them affecting a thorny kind of mingling of Geometrical and Flowing Decorated, and therefore apt to pall upon the ecclesiologist—the Priory at Belmont in Herefordshire, the new chapel at Ushaw College, Durham, the Knill chantry in St. Mary Star of the Sea (a church of Wardell's) at Greenwich, the transepts and apse of St. Anne's, Leeds (shortly to be removed), the Church of the English Martyrs near Tower Hill—a Greek cross in plan with picturesque stone galleries round it—and the Franciscan Church at Peckham seem to be most worthy of attention.

Hitherto we have dwelt almost exclusively upon the original works of architects, and although from exigencies of space it is impossible to refer at great length to such works of "restoration" and "refitting"—in progress at the majority of our capitular and other churches during this eventful twenty years—as have tended to impart to their interiors the aspect with which we are now familiar, it would be unfair to omit mention of them *in toto*. Premising, therefore, that, unless stated to the contrary, the works in churches of the former class were being carried out from the designs and under the direction of Sir G. G. Scott, we may proceed briefly to pass a few of the more important and interesting in review.

At Ely Cathedral, one of the first, under the rule of Dean Peacock, to open its doors to the sculptor and painter, the restorations, inaugurated in 1848 with the rearrangement of the choir, so as to render the octagon space available for congregational purposes, extended over a period of five-and-twenty years, at least as regards the interior, being brought to a conclusion with the painting of the great central lantern by Mr. Gambier Parry, as a memorial to that good Dean who ever had his cathedral's welfare at heart. The choir was reopened for service in 1852, albeit lacking the reredos and the stained glass in the eastern lancets, both of which were, however, supplied four years later.

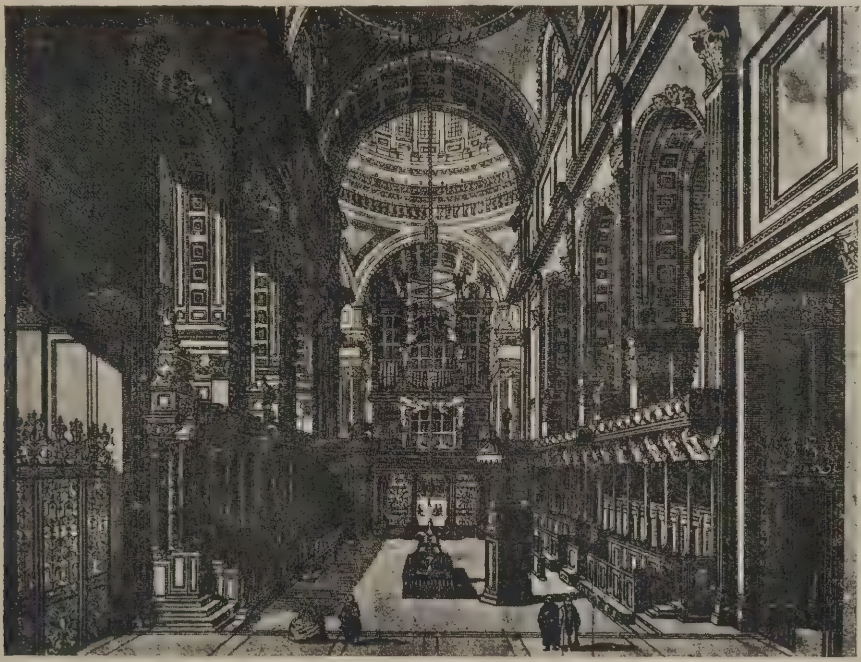
A portion of Llandaff Cathedral, comprising the lady chapel, the presbytery and the choir, having been restored from travesty and reclaimed from neglect and ruin by the skill of Messrs. Prichard and Seddon, was reopened for Divine worship on April 16, 1857, the choir of Gloucester Cathedral attending, and choral service being heard within its walls for the first time since 1691. A large sum of money (2,775*l.*) collected at the subsequent collation formed the nucleus of a fund for resuming these highly interesting and important works. It rapidly increased, and eleven years later Llandaff Cathedral stood with its nave and pair of western towers completed, the pride of, instead of what it had been twenty years before, a disgrace to the diocese.

About the same period (1857) the choir of Carlisle Cathedral had emerged in a restored condition from the hands of Mr. Christian, who had a debased ceiling of the eighteenth century removed, discovering above it the original roof of the hammer-beam class, and which he caused to be gaudily painted blue with gold stars. Some ameliorations were effected later on, when a reredos was erected from Mr. Street's designs, and the lights of the great east window filled with stained glass by Hardman in memory of Bishop Percy.

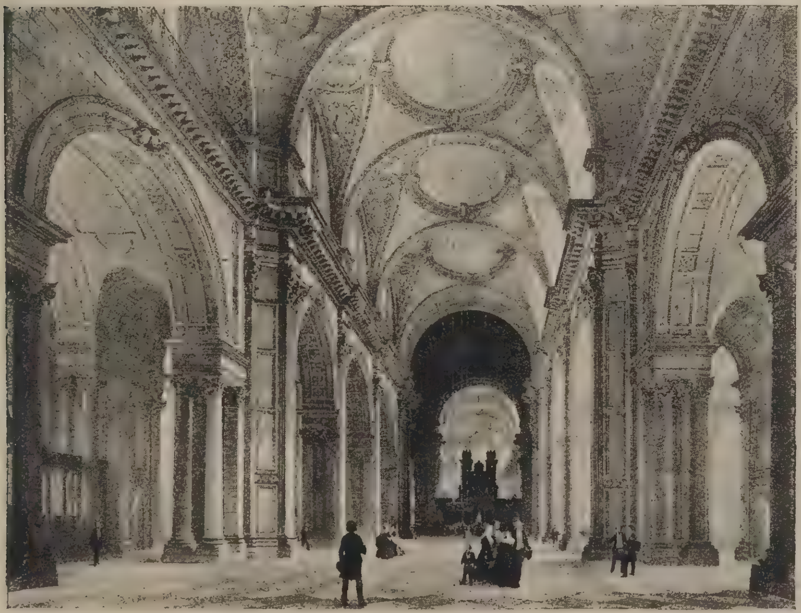
At St. Paul's the valuable post-Restoration choral arrangements were disturbed in 1860, just before which year Dean Milman had put forth his appeal for the decoration of the cathedral. The marble screen supporting the organ was removed, and the instrument placed over the stalls under the second bay of the choir on the north side, where much of its majestic effect was lost.

The stalls were shifted somewhat further westward, so as to leave the last bay on either side quite clear, the return stalls of the dignitaries being moved up into the sanctuary formed within the square-headed bay now behind the reredos, to serve as sedilia for the officiating clergy.

The monuments of Nelson and Cornwallis remained as heretofore against the blank piece of walling now concealed by the organ, and some additional seats for the congregation were arranged in front of them, the whole being fenced off from the dome by an iron gateway which, it will be remembered by old attendants at St. Paul's, had to be passed before gaining the choir-screen. This intermediate space or ante-choir was not infrequently the scene of great and unseemly crushes, especially on such occasions as the visits of the judges and the Festival of the Sons of the Clergy. But although some additional accommodation was obtained by the alterations just alluded to, nothing was done to ameliorate the ritualism at St. Paul's—the altar and its surroundings remained shabby, nay disgraceful, and the mode of performing the service became if anything worse.



ST. PAUL'S CATHEDRAL. THE CHOIR LOOKING WEST, BEFORE THE REMOVAL OF THE SCREEN.*



ST. PAUL'S CATHEDRAL. THE NAVE ABOUT 1854.

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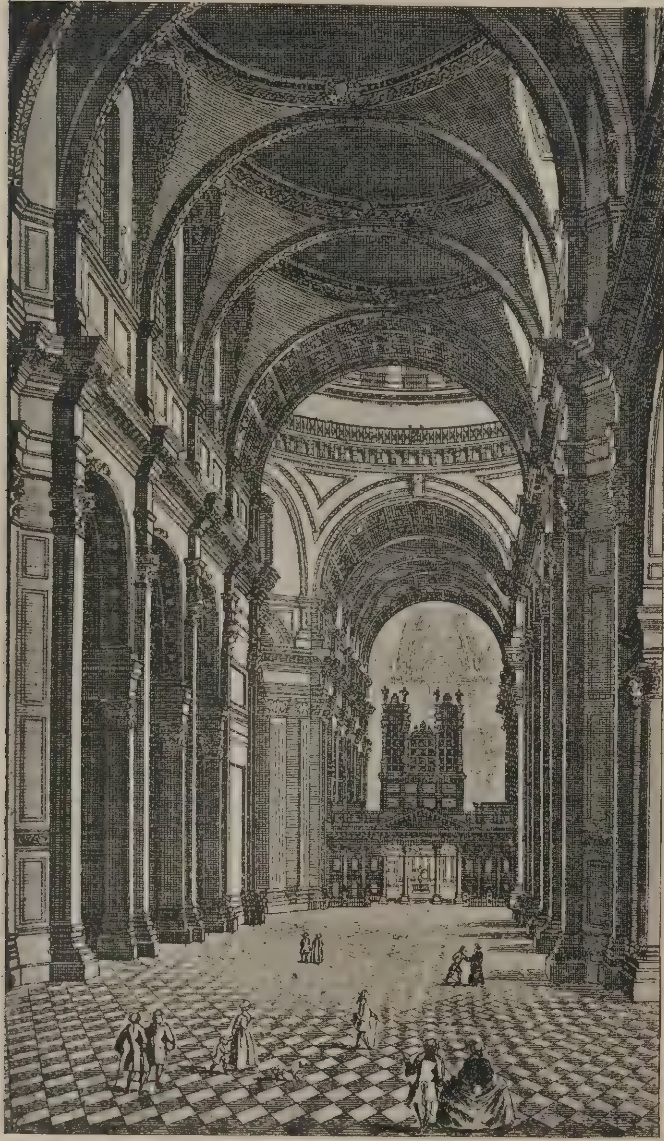
* The accompanying illustrations of St. Paul's Cathedral are reproduced from three rare engravings and a photograph in the collection of Mr. John S. Bumpus.

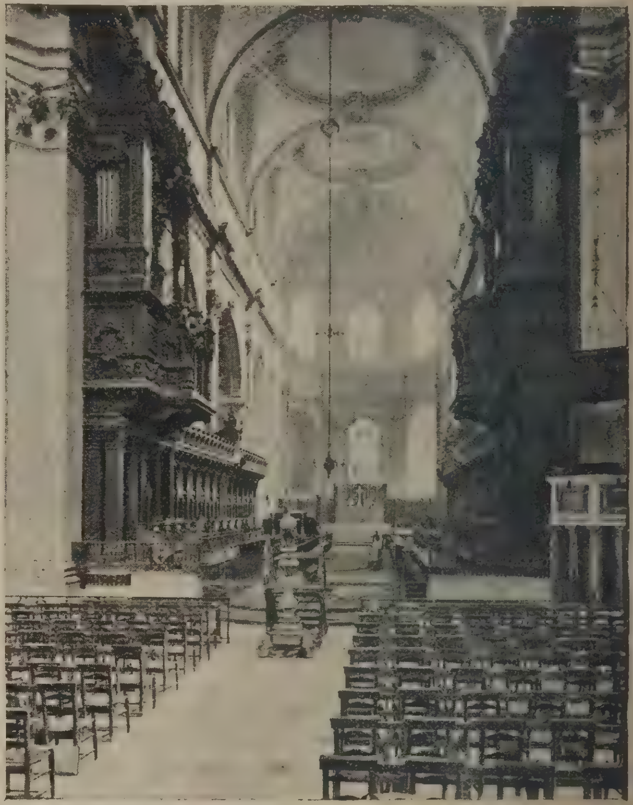


St. Paul's Cathedral. Nave looking East, about 1750.

It is impossible to call these alterations at St. Paul's "improvements," for one of the most beautiful English choirs arranged in the old fashion had been pulled to pieces, before experience in "refitting" was sufficiently ripe, to accommodate the promiscuous crowd of a Sunday afternoon congregation; while as for the decorative part of the scheme, it resulted in little beyond the filling of several windows with stained glass from Munich—feeble enough, but perhaps harmonising better with the architecture of the cathedral than what has lately been inserted—the introduction in the apse and last saucer dome of the choir of a little indefinite colour and gilding, and by the erection of the present pulpit and an organ in the south transept for the special Sunday evening services which had been instituted by Dean Milman on the recommendation of Archbishop Tait, and in emulation of those which had been established earlier in the same year (1858) at Westminster Abbey.*

Latterly two spandrels of the dome received decoration in mosaic by Salviati, the cartoon for the figure of Isaiah being by Alfred Stevens, and that for St. Matthew by G. F. Watts. Both, from their grand broad treatment, are admirably adapted to St. Paul's, and in the same style have the remaining spandrels —but within recent years—received their complement.

Dean Milman, than whom no one had a greater veneration for a cathedral whose beauties he never tired of pointing out to visitors, and under whose régime all these works were carried out, died in 1868, and was succeeded by Henry Longueville Mansel. His "special power lay in the regions of mental philosophy,"* and if as Dean he took no great share in promoting ameliorations in the mode of performing the services, at any rate placed no bar in the way of those who held more definite theological opinions.



St. Paul's Cathedral. The Choir looking East, after the Alterations of 1871-72, and before the Introduction of the Reredos and Mosaics.

During Mansel's tenure of the deanery several old members of the chapter—notably Archdeacon Hale and Revs. Thos. Dale and Henry Melvill, all canons residentiary—had died. They were ecclesiastics of the old-fashioned school, and naturally content to let matters at St. Paul's rest pretty much as they were; but their places were filled by men of quite a different calibre—Gregory and Liddon, who spared no pains in awakening Englishmen to the disgraceful state, both moral and artistic, of the cathedral, and in stimulating them to fresh exertions for its decoration. In July, 1870, a meeting was held at the Mansion House at which Mr. Gladstone urged the claims of St. Paul's in such eloquent language that a large sum was immediately subscribed, and the work of decorating St. Paul's, which towards the close of Dean Milman's life had languished for want of support, consequent upon dissatisfaction with what had been done, was resumed with much vigour. Dean Mansel, however, died in 1871, just when a commencement had been made of bettering the ritual arrangements of the choir, and was succeeded by Rev. R. W. Church, whose translation from the secluded—almost unknown—village of Whatley, near Frome, to preside over the destinies of the great cathedral of the world's greatest city, took everybody by surprise.

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* The first Sunday evening service in St. Paul's was held on Advent Sunday, November 28, 1858. Although it was not announced to commence until seven, the great west entrance and the gate next to it on the south side were besieged before five o'clock by crowds which extended even into Ludgate Hill. When the doors were at length opened, it was found necessary to exclude an immense number who pressed eagerly for admission, it having been decided beforehand, in order to prevent confusion, that only as many should be allowed to enter as could obtain seats. The lighting of the dome, with its circle of gas jets, seen for the first time at the Duke of Wellington's funeral (now only illuminated on great occasions), was in itself an attraction. The service was of the simplest character, the music being led by a large body of surpliced singers seated between the outer iron gate of the choir and the organ screen, which was at that time standing. The Bishop of London (Dr. Tait) preached. Subsequently, on the removal of the organ to the north side of the choir, a large one, by Hill, formerly in the Panopticon, Leicester Square, was purchased and set up in the south transept, the choristers—male and female—being stationed in front of it, a far less seemly and church-like arrangement than that which had originally prevailed at these services. Until 1872 Sunday evening service at St. Paul's was held only from Advent to Easter, but little diminution in the throngs attending it being apparent, and admission to certain parts of the dome being by ticket. When matters at St. Paul's began to assume something of their present aspect after the Thanksgiving Day of 1872, these services were held all the year round, and, ceasing to be "special," no cards of admission were required, though (as now) a few rows of chairs in the immediate vicinity of the pulpit and choir were reserved for regular attendants.

* Liddon. Funeral sermon for Dean Mansel preached in St. Paul's on Sunday afternoon, August 6, 1871.

But the wisdom of Mr. Gladstone's choice soon became apparent, for under Church and his energetic coadjutors—Gregory, Liddon, Lightfoot and Claughton—a vista of possibilities was opened for St. Paul's of which we have not, perhaps, seen the end yet.* Unfortunately the works in the choir were in the full flow of progress when, although far from complete, they had to be precipitated for the occasion of the Prince of Wales's Thanksgiving Service, February 27, 1872. Still the best was done that could be done under the circumstances, and on that memorable day, for the first time, Churchmen saw St. Paul's with a reverently arranged altar—now brought forward to its present position, but of course temporarily apparelled—with the organ divided at the entrance to the eastern arm, and with the seats for clergy and choir arranged as we see them now, under Mr. Penrose's skilled direction.

The numerous proposals made for the rearrangement and redistribution of the choir of St. Paul's, some feasible and even scholarlike, others wildly impracticable, not to say ridiculous, will be remembered.† It is almost needless to state nothing came of any, so that we may suppose the present arrangements, despite the elongated choir—forced upon Wren by the Commissioners, who were so wedded to the Mediæval form of it—are, to all intents and purposes, the best.‡

The Prince of Wales's Thanksgiving stimulated the efforts of the committee for decorating the interior with mosaic, and large sums of money were again subscribed, but owing to difference of opinion nothing was done in this direction until ten years ago, when Sir Wm. Richmond commenced his work, and one of the *vexatæ questiones* of the day for many years was, "How shall we decorate St Paul's?"

TAYLOR ART COMPETITION.

THE adjudication of the Taylor Art Scholarship and Prizes, which is open to students of art in Ireland, took place last week. The judges were:—Captain T. Longworth Dames, D.L., appointed by the Royal Dublin Society; S. Catterson Smith, R.H.A, appointed by the Royal Hibernian Academy; Sir Walter Armstrong, director of the National Gallery, appointed by the Governors of the National Gallery of Ireland.

The works were examined by the managers of the trust, Mr. Chambre and His Honour Judge Kane, LL.D., and were found to be in accordance with the regulations.

Candidates for the scholarship and prizes were required to submit for examination a work in one of the following classes:—

Class 1. For painters—A composition or subject picture in oil or water-colour. (*a*) For figure-painters—Two views, back and front, of a female model draped as exactly as possible after the Venus of Milo. (*b*) For landscape-painters—A "Street" or a "Peat Bog."

Class 2. For modellers—A statuette not exceeding 36 inches in extreme height; subject "A Bather," drying himself or herself with a towel.

Class 3. Water-colours—A prize, not exceeding 10*l*, is offered for a work in water-colour. The subjects are—(*a*) Landscape, "A Heath, with a Breezy Sky." (*b*) Figure-painters—"The Letter Writer;" interior.

Class 4. Optional work—A special prize, not exceeding 10*l*., is also offered for competition, the selection of the subject in art being left entirely open to the competitor.

Fifteen works in all were submitted in competition—Class 1a, 1 work; Class 1b, 2 works; Class 2, 3 works; Class 3a, 1 work; Class 3b, 2 works; Class 4, 6 works. Total, 15.

The judges, having examined the works, awarded the prizes as follows:—The scholarship of 50*l*. to statuette No. 5, executed by Miss Beatrice M. Elvery, a student of the Metropolitan School of Art, Dublin. This award is subject to the competitor passing the further examination required by the regulations. A prize of 15*l*. was awarded to statuette No. 15, executed by Miss Gwendoline Herbert, student of the Metropolitan School of Art, Dublin. A prize of 5*l*. was awarded to the painting No. 3, "Street Scene," executed by Francis O'Donohoe, formerly a student of the Metropolitan School of Art, Dublin, and now studying at the Académie Julian, Paris. A prize of 5*l*. was awarded to the painting No. 8, "Letter Writer," executed by Francis O'Donohoe, and the Optional Prize of 10*l*. was awarded to work No. 14, study of a head, also executed by Francis O'Donohoe. The managers confirmed the above awards. The judges, in their report, express disappointment in the general quality of the paintings and water-colour drawings sent in for competition. As a class, they are worse than they have ever been before in the memory of the judges.

SURREY ARCHÆOLOGICAL SOCIETY.

THE annual general meeting of the Surrey Archæological Society was held in the Council-room at the Castle Arch, Guildford, on the 23rd ult., when Viscount Midleton (president) occupied the chair.

The Council, in submitting its forty-sixth annual report, referred to the afternoon meeting of the Society, held at Kingston on Saturday, June 16, the annual meeting at Guildford on Thursday, July 19, and the visit to Waverley Abbey on Saturday, September 22, when the interesting results of the excavations which the Society, under the directions of the Rev. T. S. Cooper, had been carrying out, were inspected by members and their friends, and kindly explained, says the *Surrey Advertiser*, by Mr. Harold Brakspear.

In fulfilment of the promise made in last year's report, a complete and bound volume of the Society's Collections (vol. xv.) was duly issued to all members not in arrears with their subscriptions. In this volume were valuable papers by Mr. J. Lewis Andre, F.S.A, Mr. H. E. Malden, M.A., Mr. Mill Stephenson, B.A, F.S.A, the Rev. T. S. Cooper, M.A, F.S.A, Mr. A. Ridley Bax, F.S.A, Mr. Philip M. Johnston and Mr. Cecil T. Davis. The catalogue of church plate was, with the exception of certain appendices, now brought to its conclusion by Mr. Cooper. The Council, while it congratulated the members on this evidence of the Society's increased prosperity, and was decided to repeat this policy of issuing a complete volume for the year during the present year, felt that, if the practice was to become permanent, it must still further urgently appeal to them to enlist the interest of their friends in the Society's work, and thus help to obtain new members. Considerable as had been the increase in the number of members during the past two or three years, the Council was persuaded that this number did not yet adequately represent the number of those who were interested in the archæology of the county. The accounts of the Guildford Museum Fund, now wound up, were presented with the report, together with the list of subscribers, to whom the Council had already expressed its deep gratitude for their liberality in enabling the Society to make so successful a start in its new home. After meeting all the liabilities on account of this fund, a sum of two guineas was required to make up the sum of 5*l*., the balance of Lord Ashcombe's special grant towards binding the books in the Society's library. The Council was indebted to Mr. F. A. Heygate Lambert, F.S.A., for his kindness in making up this deficiency, and this sum of 5*l*. was included in the balance to the Society's credit in its general cash account, and would be devoted to its special purpose as occasion should arise.

The excavations at Waverley Abbey were continued last summer, under the superintendence of the Rev. T. S. Cooper and Mr. Henry Horncastle, with even more important and satisfactory results than hitherto. Mr. Harold Brakspear had been more than kind in again giving up much valuable time, and bringing his large experience to bear on doubtful and difficult points. The work had been at times very perplexing, owing to the many and unexpected walls and footings found of the Norman abbey mixed up with, and sometimes made use of in the later buildings. In the previous year Mr. Brakspear discovered the little presbytery of the Norman church in and forming part of the south transept of the later magnificent church planned by William de Bradewater. The long narrow Norman nave had now been traced below the cloister. The original cloister was at some time considerably enlarged, and carried across the cellarium as well as the nave of the first church. The arrangement of the frater and its pulpit was interesting, as it showed the former to be of two dates at least. The plan of the infirmary hall and kitchen was now clear, and it had become evident that there was no building between this portion of the abbey and the river. Some interesting features, too, had come to light in the direction of the monks' dormitory. Much of the Norman work here remained, with the south wall on a line with that of the frater; later the dormitory was extended southwards at a higher level, almost to the river bank. At the north end the doorway leading from the cloister and the fine broad steps ascending to the dormitory had been exposed, and close by a winding staircase which probably formed the approach to the treasury. The plan of Bradewater's church also was now nearly complete. There was still a good deal to be done west of the cellarium, where the guest houses, the infirmary of the conversi, and possibly a gateway, might be looked for. This was of almost greater importance than the work already done, since these buildings of the outer court had never been worked out properly anywhere; both at Fountains and Furness the remains of them were anything but complete, and at the former it was known there were a number of buildings of which no trace could be found. The Society had, therefore, the opportunity of adding materially to what was already known of the plan of a Cistercian abbey, an opportunity which might not present itself again. It was much to be hoped that the owner of the site would allow the excavations to be extended. In the event of his doing so, the Council must again appeal for subscriptions to carry to a satisfactory conclusion that which was undoubtedly the most important work the Society had ever taken in hand.

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* One of the most salutary of the reforms carried out at St. Paul's at this time was the reconstitution of the choral staff, and the erection, in 1874, from Mr. Penrose's designs, of a commodious school for the choristers adjoining the Deanery.

† See *The Sacristy*, vol. i. pp. 1-5, and Fergusson's "Proposal for certain Alterations in the Choir of St. Paul's," embodied in a letter addressed to the Dean, April 20, 1874.

‡ The arrangements of the sanctuary, as shown in the accompanying illustration, remained until 1886, when preparations were made for the reredos, which was completed in 1888.

Mr. More Molyneux proposed a vote of thanks to Viscount Midleton for presiding that day, and the noble chairman, in returning thanks, said the vote enabled him to allude to two objects, both of which were germane to the duties of the Society, which had been accomplished in the county within the last year. One was the restoration of East Clandon Church, in which a member of their Council, Mr. Eastwood and his family, had taken a very active part indeed, both in superintending it and contributing most generously to its cost. That work had been carried out under Mr. Jackson, the diocesan architect, and he must say he thought it was one of the most successful restorations of an old parish church—not a very large one, but a very interesting one—that he had ever seen. He had succeeded in carrying out the work in such a manner as not in any way to interfere with the old historical features of the church, and he had developed several new ones which were previously unsuspected. He ventured to think that anyone who took a drive in that direction might spend half an hour with great profit and pleasure to themselves by seeing what had been accomplished there with perhaps one of the least attractive of their old Surrey churches. The other matter to which he alluded was more personal to himself. He found from the Vicar of Wandsworth that in altering the church in that parish it was necessary to remove an old monument belonging to his (the president's) family, and which was erected to Sir Thomas Brodrick, Lieutenant-Governor of London, who died in 1641, and to his wife. It was a very large monument, and it occurred to him that considerable difficulty would be found in replacing it where it formerly stood. He communicated with the proper authorities, who regarded it as rather a white elephant, and were perfectly willing to accept his offer to give a contribution to the church, and at the same time to remove the monument at his own expense to Peper Harow Church. He obtained the necessary faculties for its removal from Wandsworth Church and its erection in Peper Harow Church, and he was glad of the opportunity, as he had had his eye on it for about thirty-five years He did not say it was the sort of monument they would put up in the present day, but it was a very interesting monument indeed of the seventeenth-century time. There were two busts, each about 2 feet 6 inches high, of the gentleman and lady whom it was intended to represent, and he was told they were very good busts. An inscription had been duly placed on the black marble slab on which the busts rested, recording the fact that it was moved in 1900 from Wandsworth Church, where it had been considerably over two centuries, to Peper Harrow. He felt that they ought to endeavour in every possible way to preserve any of those memories of the past and to place them in positions in which they could be accessible to those who took an interest in such matters.

The proceedings then terminated.

BERKS ARCHÆOLOGICAL SOCIETY.

THE fourth meeting of the winter session of this Society was held at the Abbey Gate, Reading, on the 27th ult., when a lecture was delivered by the president, Mr. Chas. E. Keyser, M.A., F.S.A., of Aldermaston Court, on "The Sculptured Tympana of the English Norman Doorways." The lecture was illustrated by lantern-slides. Lord Saye and Sele took the chair, and there was a large and interested audience.

In the course of his lecture Mr. Keyser said he had ventured to bring before the Society that day the subject of the sculptured tympana—the heads—of the Norman doorways, of which they found a certain number of examples scattered throughout England. In a large number of Norman doorways, as he had previously shown, they found various forms of ornamentation, particularly around the arches, but those which also had figured sculpture were not so numerous. Indeed, he believed there were not more than 200 examples of that work to be found in England with crosses, trees or sacred or mythological figures. He was going to show them almost every example of those doorways with figure sculpture to be found throughout England, and to that end had employed photographers to work for him almost throughout the country. He was specially indebted to his friend Mr. Marcus Adams, who had taken a large number of those views and had also made a very great many of the beautiful enlargements. On a previous occasion they had had some discussion as to the origin of the ideas of those sculptures and how they were brought into this country—because, although Englishmen had always shown great individuality, our civilisation was comparatively late, and therefore ideas had to be imported from elsewhere. No doubt the ideas of many of the sculptures of which he was speaking were brought originally from the East, probably through the medium of the Crusades, and there was certainly a tinge of Eastern art in the sculptures which they found in twelfth-century work; but there had also been a certain influence exercised from Scandinavia. There, however, the same influence had been brought to bear, so that it was probably due to the invasions of the Danes into this country that a certain amount of influence on English art in that direction was due. He had been looking very carefully through a large collection of pictures of French-Norman doorways, which some people might call Byzantine, Lombardic, or Romanesque; and there was certainly a great difference in the sculptures of those doorways to that existing now in England. He had come to the conclusion from his researches that there was in the twelfth century the same individuality that we found at the present time. We were often glad to take ideas from other countries, but Englishmen did not like to copy any idea in a servile way, preferring rather to improve on it, and so he found something specially English in those twelfth-century Norman sculptures, just as there was in everything we had carried out in this country. Mr. Keyser then (Mr. Lewis, of Broad Street, ably manipulating the lantern) showed 164 slides, dwelling more or less on their features of interest.

After the lecture tea was provided through the kind hospitality of the President.

The unique series of large and beautiful photographs will, we learn, remain on view at the Abbey Gate until Monday next.

A hearty vote of thanks was passed to Mr. Keyser for his interesting lecture, on the proposition of Lord Saye and Sele, seconded by the Rev. P. H. Ditchfield.

SURVEY OF THE MEMORIALS OF LONDON.

A MEETING of the committee for the Survey of the Memorials of Greater London was held on Monday night at the residence of Lord Monkswell, 7 Chelsea Embankment. Mr. C. R. Ashbee, on behalf of the committee, presented a brief report on their work in Chelsea and other parts of London. He pointed out that they had concentrated most of their efforts on the parish of Chelsea, and had, among other things, succeeded in preserving the old Jingo tree in the Chelsea Physic Garden, which was in danger of being destroyed. They had not, however, been so successful with regard to the interesting little building in the King's Road known as Box Farm, which had been demolished, but they had managed to keep some record of it. They had also had something to say in the matter of the proposal by the London County Council to run trams along the Chelsea Embankment, as it was felt by many that the lines should take another course. It had been mooted that a scheme was on foot for the destruction of Dr. Keen's house in Chelsea, and for building on the site either a theatre or music-hall, and he thought that the committee should take what steps they could to prevent any such action being taken. They now had a good collection of drawings and photographs, by means of which they hoped to get the people of London to recognise how beautiful were many things that surrounded them. Sir R. Hunter moved that the first volume of the register of the committee should be formally presented to the subscribers, and stated that it had been published by the London County Council. Referring to the proposed demolition of Christ's Hospital, he said it would be a most serious loss if the site of this charming and interesting building were to be covered by streets and buildings. Every effort should be made to oppose the Bill now before Parliament dealing with the matter, in order to rescue from the hospital a certain proportion of the open space and some of the more beautiful of the old buildings. He looked upon the production of their first volume as being an epoch in the history of the Society. Mr. Quinn seconded the motion, which was adopted. Lord Monkswell (the chairman) said that the matter of Christ's Hospital had been before committees of the London County Council, who were now considering what form their opposition to the Bill should take. It was thought that, if the promoters obtained powers to override the Disused Burial Grounds Act and build over the burial-ground, they should at least give up an equal amount of ground as an open space. He mentioned that the creation of the new historic building committee of the London County Council was largely due to the efforts of Mr. Ashbee.

TESSERÆ.

"Greek Thomson."

In all of his designs Alexander Thomson set himself to adapt the principles of Greek art to modern requirements, without any pedantic borrowing of their features. Indeed, it is quite surprising how seldom we find in his works the orders reproduced, with their details strictly conforming to the ancient remains. He more frequently originates some form of column and capital designed to meet the special requirements he had to deal with, or to conform to the character of the impression he wished the building to convey; but where he has used the orders they are appropriately placed, finely proportioned and detailed with carefully adjusted relief, the wall-space behind being kept subdued in tone, with no disturbing objects in it to mar the repose and quiet dignity of the design. The multiplicity and the variety of the details and forms he introduced into his works, and the singular grace and unity of effect he maintained throughout, are deserving of our most careful consideration, showing as they do that to adopt a style does not necessarily imply that only those marked features and peculiarities of detail and combinations which are found in the original works are to be reproduced, but that new forms and details may freely be employed, provided we have skill enough to maintain the spirit and essential qualities of the style. Of none of his designs can it be said that they are very like the old work, a term of praise we often hear applied to the works of our best men of Mediæval proclivities; but, whilst they differ from the works of the Greeks as distinctly as the nature of our requirements do from theirs, they agree with them in the adaptation of forms to the purposes they subserve—the grouping of the parts into forms in which the horizontal lines predominate, the clear marking of the voids, the precision of the distribution, and the graceful adjustment of light and shade, with strength and placidity as a general expression. Only by the adoption of such principles as these can building be raised into a fine art. His churches in Saint Vincent Street and Caledonia Road, Glasgow, are in his best manner, while the various warehouses and other street buildings by his hand are all marked by the same elegance and refinement of detail, and display the abundance of his resources in design and his power of impressing on them his own ideal perception of art.

Old St. Paul's.

This church was one of the largest in dimension in England, and perhaps inferior to none in noble simplicity. The part east of the transept was of uniform height and architecture throughout, as at York and Lincoln, and was divided by screens into three parts, viz. the choir, the lady chapel and a space between them, and was terminated by a magnificent circular window, beneath which were seven narrow lights with trefoiled heads. The windows of this portion of the church, as well in the clerestory as in the aisles, were of ample size, of three lights with three quatrefoiled circles in the head. Great richness of effect, especially in the exterior view, must have been produced by the proportions and disposition of these windows, by the height of the aisles and by the bold flying buttresses. The ascent to the choir was by several steps, terminated by a highly ornamented screen, but not very chaste in design. This ascent, taken in connection with the Norman transept, resembles one of the finest features of Rochester Cathedral. The nave was a noble specimen of the Norman style, the place of the triforium consisting in each bay of a single arch of the same breadth as the pier arch. The clerestory windows were pointed, and are represented by Hollar as being without mullions. The roof both of the nave and eastern part was simply vaulted. The view of the choir shows the melancholy state of dilapidation into which the church had fallen before the Great Rebellion. Most of the arches of the triforium were walled up, the mouldings and shafts of many being defaced or concealed. The organ was placed under one of the north pier arches of the choir just above the stalls, having a choir organ in front and shutters to close in the great organ. The case was Gothic, with a crocketed pediment. The pulpit, of the bastard Italian style, had a sounding-board, and was very slightly elevated, close to the organ, on the north side of the choir. In the choir were no subsellia, only one row of stalls being represented (with canopies of a debased style) on each side of the choir, whereas all our other ancient cathedrals had two rows, a second being obviously required for the minor canons and vicars choral, as in the modern church of St. Paul. It is also noteworthy that there was no bishop's throne. But the peculiar feature of the cathedral was the position of the chapter-house, an octagon occupying the centre of a small but beautiful cloister, placed in the angle formed by the south side of the nave and the south transept. The cloister had two storeys of open arcades. The chapter-house, by its lofty and tapering proportions and the great length of its windows, far surpassed in exterior beauty the other polygons of English architecture, and had much that was foreign in its character.

Tombs of Crusaders.

We know but very few of the names of the Crusaders whose monuments remain with us; either they trusted too much to tradition to carry their names down the stream of time, or, which is much more probable, they cared but little to be remembered by men, and left in consequence no record of their names on their tombs. County historians seem very little able to throw any light on the subject, and the almost total destruction of church records and histories on the suppression of the monasteries has left us without hope of ever emerging again from the darkness of ignorance we are now in. The chief variation in the effigies of the Crusaders is in the position of the hands; some have their hands folded as in prayer, others have the right hand on the handle of the sword, with the left hand on the scabbard. This difference is not easily accounted for, and among various conjectures is one by which the folded hands denote that the Crusader had returned to his home and had died quietly in his bed, and that the hand on the sword denotes that he died in battle, and that his body was brought over from the Holy Land and buried where we find the effigy. A close examination of the armour will at all times supply us with the date very nearly, and especially if we distinguish between the single and the double chain-mail, which in general in the present state of the monuments, plastered as they are with the successive coats of ochre and whitewash, it is not very easy to do.

Heraldry in Windows and Brasses.

Heraldry is extremely liable to corruption by time. For instance, the modern three instead of the ancient four pallets in the arms of St. Peter's College; the field of France semée of fleur-de-lys changed into three fleur-de-lys; the lion and leopards of England converted into three lions passant; the countless variations in the number of charges in bordures, ordinaries, orles, &c, which those who are in the habit of comparing ancient with modern shields cannot fail to observe. These monuments are a standing testimony to the purity and antiquity of coat armour, which is highly to be prized in times when all may bear arms, and when antiquity therefore constitutes their only value. Again, the numerous quarterings sometimes exhibited in ancient shields afford evidence of the most infallible kind of intermarriages, of which all written or even traditional record has now perished. They furnish us with hieroglyphical pedigrees, often of the greatest importance in ascertaining the rank and influence, fortunes and alliances of old families. In an assignment of a peerage long held in abeyance an almost defaced shield cut in stone on the porch of an Early English church in Lincolnshire furnished evidence, in default of which the decision would in all probability have been very different from that which was given by a committee of the House of Lords. In respect of unchanging accuracy, monumental brasses naturally afford much more certain testimony than stained glass, in which ignorant and remorseless glaziers can at any time omit or add a bordure (sometimes, as may be seen in Milton Church, compony of half a dozen tinctures) at will, or collect into a heap which may readily be mistaken for the quarterings of some goodly escutcheon a variety of integral coats, taken at random from different windows which never had the remotest connection with each other. A glazier's workman may thus make more intermarriages in half an hour than have taken place in the old parish church for the last fifty years. He may compose a pedigree which will lead some worthy antiquary a wild-goose chase for months to come. He will fraternise the arms of a see with the escutcheon of the parish squire, or the plain ancient ordinary of the founder or benefactor of the church with the multiplex modernisms of the occupant of the great pew in the chancel. But nothing of this kind can possibly be done with brasses. It is true that the tinctures are never expressed on the more ancient examples, and the colours with which they were in many cases originally inlaid have long since perished. Yet the absence of these will seldom afford much difficulty to a good herald, and the very deficiency furnishes a field for research and conjecture by no means displeasing to the true lover of the science.

The Irish Academy and Archæology.

Although incorporated in 1786 for promoting the study of science, polite literature and antiquities in Ireland, the Royal Irish Academy does not appear to have taken any effective steps towards the formation of a collection of antiquities until 1839, when Professor MacCullagh, the mathematician, presented as a nucleus the celebrated Cross of Cong to the Academy. Immediately after we find him taking steps to secure further additions by heading a subscription list to obtain funds for the purpose. The Tara torques, the Domnach Airgid and other valuable relics of former times, many of them of surpassing interest, were successively added to the commencement thus so auspiciously made—every movement in which had the cordial support of the distinguished Professor with whom the scheme originated. The addition of the collection of Irish antiquities, coins and medals, of Dean Dawson, of St. Patrick's Cathedral, for which a sum of 1,000*l.* was paid, at once gave to the new museum a character of national importance. Contributions from all quarters were subsequently made to it, but those of special value were made by the Shannon Commissioners, the Commissioners of Public Works, the directors of the Great Southern and Western Railway Company, the trustees of Kilmainham Hospital and Colonel Portlock, R.E. Considering that the committee of antiquities formed an integral or third part of the Council of the Academy since its foundation, it is somewhat singular that so long a period should have elapsed without any effort being made to carry out so very important, and what was, moreover, a fundamental object. The first appropriation of any of the funds for this purpose appears to have been made in 1837 at the instance of Dr. Petrie, whose services in the cause of antiquarian research in Ireland are so well known, by a grant of 73*l.* 10*s.* to purchase a collection then for sale. The next grant of money on the part of the Academy for this purpose was a sum of 113*l.* 11*s.* 6*d.* in 1842. In the meantime, however, as has been already seen, the liberality of some of the members made amends for the indifference which appears to have actuated the governing body, and in little over ten years a collection was brought together, the aggregate value of which exceeded 5,000*l.*, and which since is constantly increasing.

The Cathedral of Cutais.

With the single exception of S. Sophia, this was perhaps the most successful effort of Byzantine art till its Servian development. It was, however, begun by Georgian architects, a fact which undoubtedly influenced its plan, for we find the adoption of the Armenian niched apse, which here attains its most perfect form, and the anti-parabemata and the apsidal transepts. It has prothesis and diaconicon. The dome piers are octagonal, and enriched with capitals not unlike those of English Romanesque. The dome should rather be described as a circular tower with spire, another proof of Armenian influence. The narthex is flanked by two towers, like S. Sophia at Kieff, and like many Western Romanesque examples, as Laach, Liège, St. Bartholomew, &c., and both the royal and the beautiful gates are pointed, though undoubtedly of the same date as the rest of the building. The whole church is arcaded in the exterior with narrow, tall, circular-headed arches, thereby showing its Georgian relationship. This cathedral was begun in 1003 by Bagration III., King of Georgia, who intended it for a masterpiece of art and decoration. On his death, however, it was not very far advanced, and his son, Bagration IV., who had married a daughter of Romanus Argyrus, Emperor of Constantinople, applied to his father-in-law for architects capable of accomplishing the work. His request was granted, and the same emperor supplied the architects for S. Sophia at Kieff.

GENERAL.

Mr. Roger Fry is to give two lectures at the Royal Institution on "Naturalism in Italian Painting." Professor W. M. Flinders Petrie will give three lectures dealing with "The Rise of Civilisation in Egypt."

Mr. James W. Bradley, borough engineer of Wolverhampton, has been appointed by the Westminster City Council to be city engineer and surveyor at 1,000*l.* salary.

His Highness Sir Waghji Ravaji, Thakur Sahib of Morvi, a State of Kathiawar, in Western India, who is just bringing to a close his visit to England, has decided to erect a hospital in his capital as a lasting memorial of the late Queen-Empress. It is to cost 2 lacs of rupees, and in the central hall of the building will be placed a statue of the Queen-Empress, which is being executed by Mr. E. R. Mullins.

The Legislature of New Brunswick has placed in Nately Scures Church, Hampshire, a brass of colonial workmanship to the memory of General Thomas Carleton, Governor of that province from its foundation in 1784 until his death in 1817.

Signor Venturi, the Milan archæologist, was elected a foreign associate of the French Academy of Fine Arts in the room of Verdi.

The Vicar of St. James's, Croydon, which used to be known as "The Cadets' Church," is endeavouring to meet the needs of his rapidly growing parish by building a daughter church as a memorial of the old Addiscombe College. The church will cost 11,000*l.*, of which a sum of 4,000*l.* has been raised, including 1,700*l.* from the Marriott bequest.

The Technical Education Board of the London County Council awarded on Monday 164 art scholarships and exhibitions to students in London schools of art, polytechnics and technical institutes. The scholarships and exhibitions were awarded mainly on the merits of works which had been executed by the candidates during the past year, a selection of which was recently exhibited at the Northampton Institute. The examiners were Professor Simpson, of University College, Liverpool, and Mr. Selwyn Image.

The Annual Dinner of the Institution of Mechanical Engineers will not be held this year in consequence of the national mourning. The president of the Institution (Mr. Wm. H. Maw) will deliver an address to the members on Friday, April 19, at 8 P.M.

The Belvedere Park, Tunis, is in course of formation. During the operations the workmen discovered a huge circle of enormous stumps of trees ranged round an immense square stone showing signs of artistic chisel work. In the neighbourhood were found a sort of bronze trough containing a gold sickle in perfect preservation, and a sarcophagus containing a skeleton. About the forehead of the skeleton was a gold band, having in the centre the image of the sun accompanied by hieratic signs, which are provisionally interpreted by the monogram of Teutates. The discovery of such remains in North Africa has created a sensation.

A Special General Meeting of the Royal Institute of British Architects will be held on Monday, April 15, to receive and consider a recommendation of the Council that Mr. Wm. Emerson, president, be requested to allow himself to be nominated as President for the ensuing year of office, and that consequently by-law 26 be suspended.

The Council of the Shanghai Society of Engineers and Architects for the ensuing year is made up as follows:—*President:* G. James Morrison. *Vice-presidents:* Brenan Atkinson, T. Bunt, J. R. Harding. *Council:* C. Gilbert Davies, C. Mayne, W. Scott, J. R. Twentyman, T. Weir, A. P. Wood, with Chas. H. Godfrey as honorary secretary. There are already eighty-five members of the Society.

The New Chancel which has been built by Lady Tate, at Brixton Congregational church, as a memorial to her husband, Sir Henry Tate, the founder of the National Gallery of British Art and of many free libraries in South London, was opened on Sunday last. The chancel is in the form of a large bay, and takes the place of a small structure which formerly was occupied by the organ. The style is Classic. Leading features of the new work, for which Mr. P. Morley Horder was architect, are a handsome pulpit, rood-screen, organ lofts—one at each side—and rich wood panelling round the lower part of the wall. Five lancet windows of stained glass are the only parts of the old chancel which have been put into the new one.

Mr. Walter C. Ryde will read a paper on Monday, April 15, before the Surveyors' Institution, entitled "The Rating of Public Houses."

The Architects selected to compete for the architectural work of the national memorial are, it is said, Mr. T. G. Jackson, R.A., Mr. Aston Webb, A.R.A., Mr. Ernest George, Sir Thomas Drew (Dublin), and Dr. R. Anderson (Edinburgh). The statue will be the work of Mr. Thomas Brock, R.A.

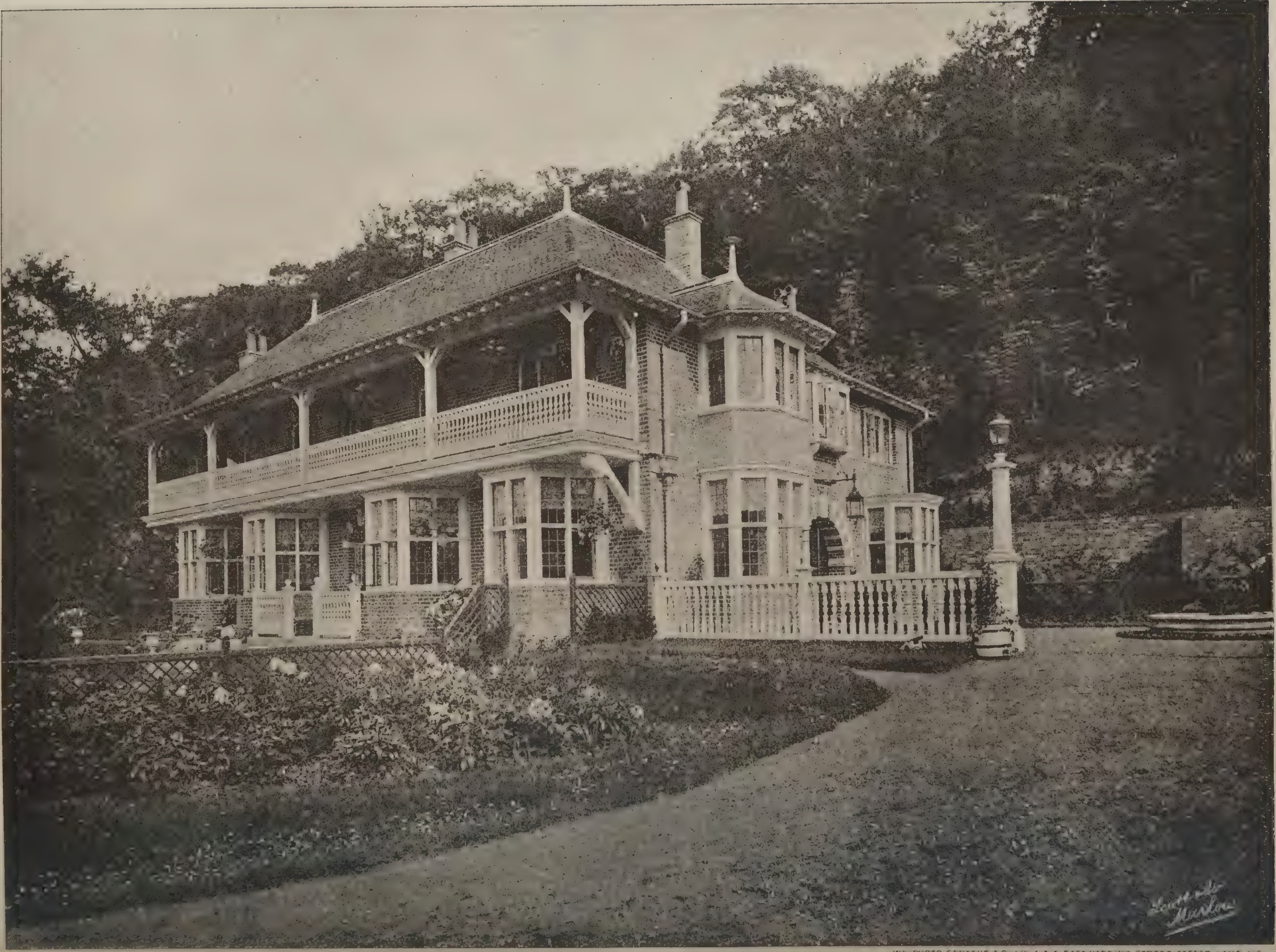
Earl Cadogan, Lord Lieutenant of Ireland, has purchased four pictures out of the exhibition of the Royal Hibernian Academy. It will indicate the encouragement which art receives in Ireland when it is known that his lordship is the only purchaser who has been attracted since the exhibition was opened.

A Model of the Pont Alexandre III. made by M. A. Kowokaroff, architect, on a scale of one-fiftieth full size, is now on exhibition in St. Petersburg.

A Proposal has been made by the Dean of Winchester for the erection of a reredos in the lady chapel of Winchester Cathedral, in memory of the late Miss Charlotte Yonge.

The Measure promoted by the Corporation of London proposing to authorise the widening of London Bridge has now become unopposed, and will, therefore, shortly be taken before the Chairman of Ways and Means in the Commons.

Out of the seventeen sets of drawings sent in competition for proposed alterations and additions to the Police Courts, Bristol, the designs premiated are those respectively of Mr. Henry Williams, architect, Clare Street, Bristol, and Messrs Buckland & Farmer, architects, Paradise Street, Birmingham.



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HOUSE AT MARLOW.

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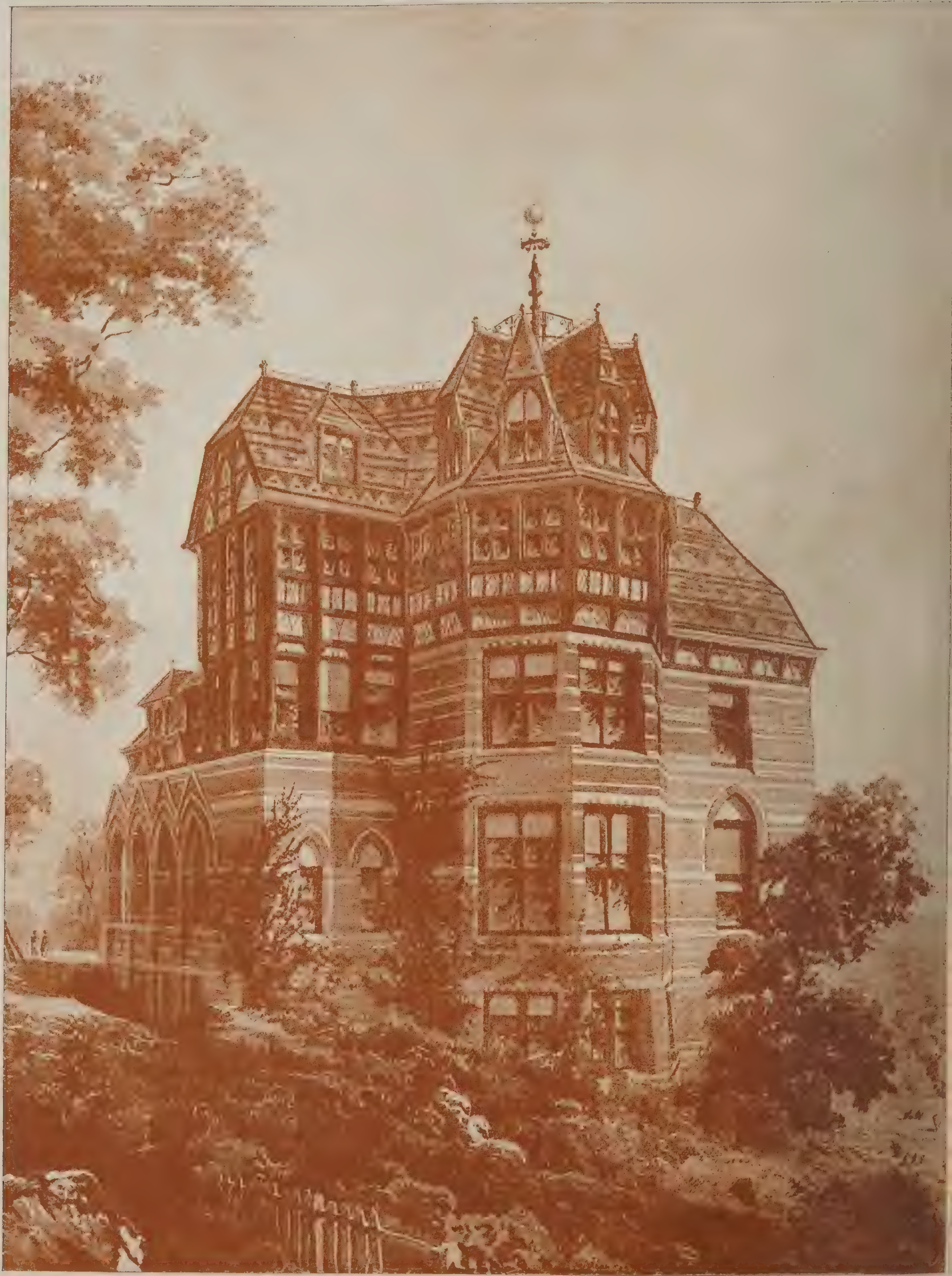
The Architect, Apr 5th 1901.



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"COMBE LAMMAS," ESHER.

F. WALLEN, Architect.

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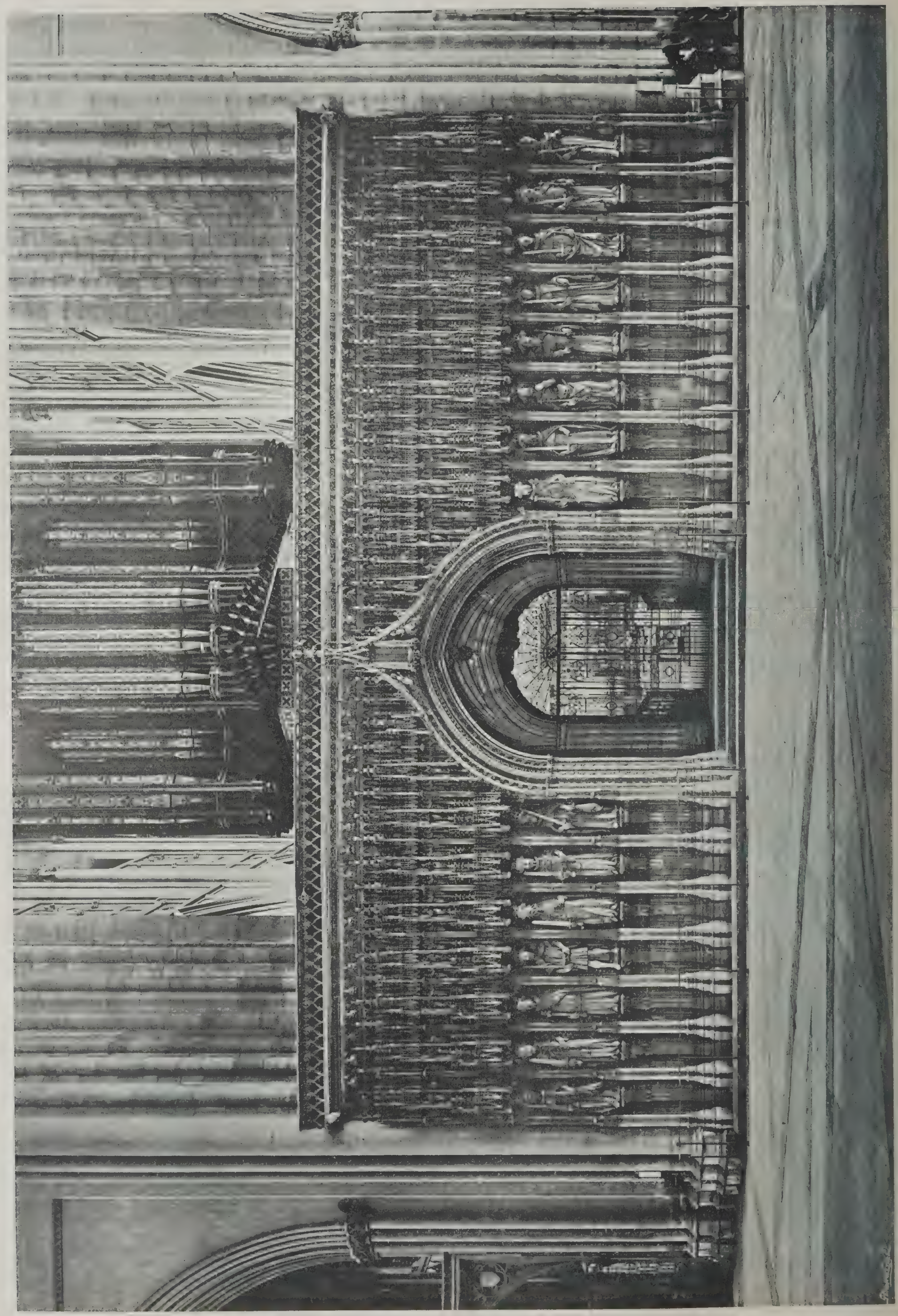

Cathedral Series, No. 326. York Minster: The Great Stone Screen.

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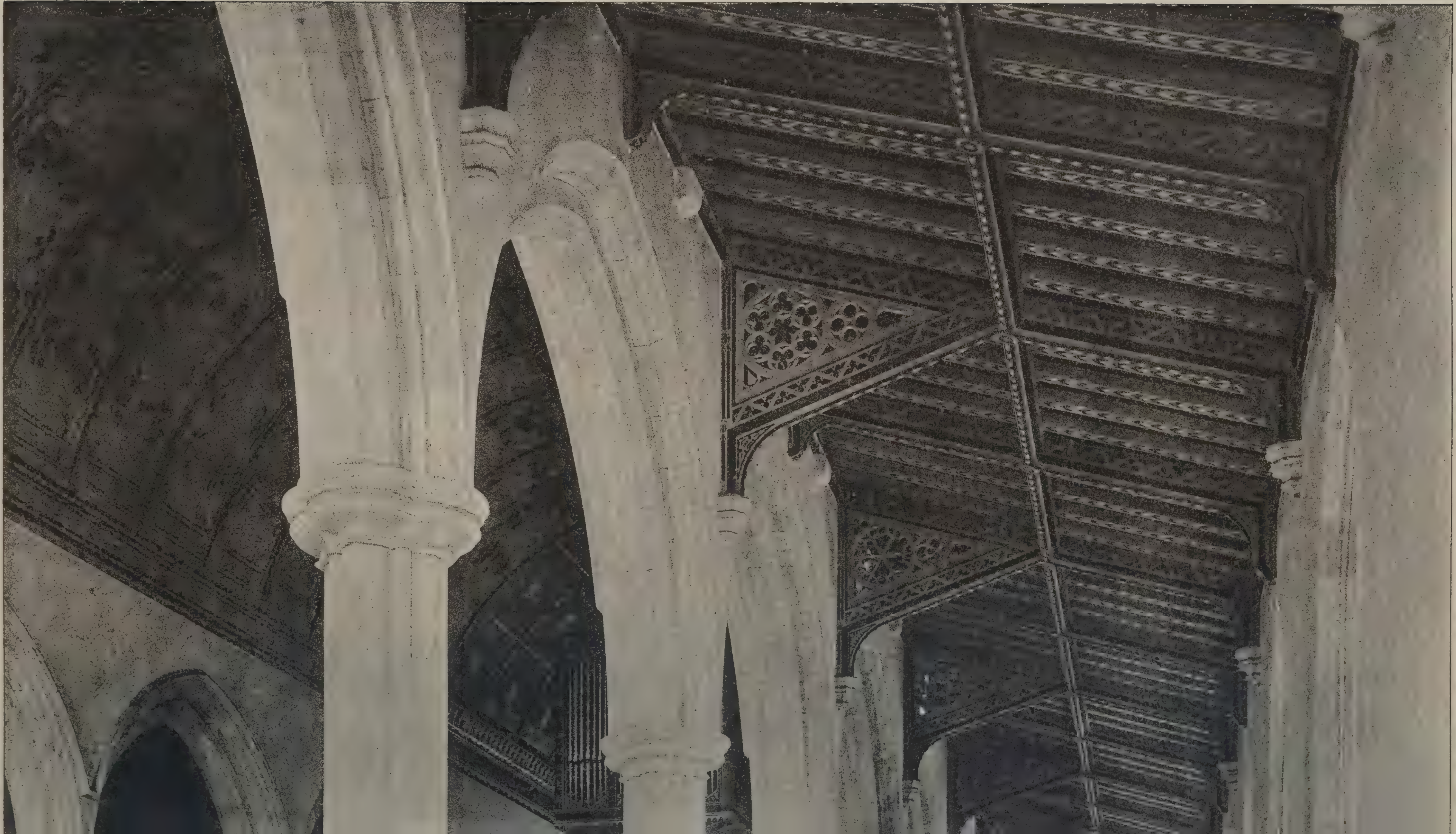

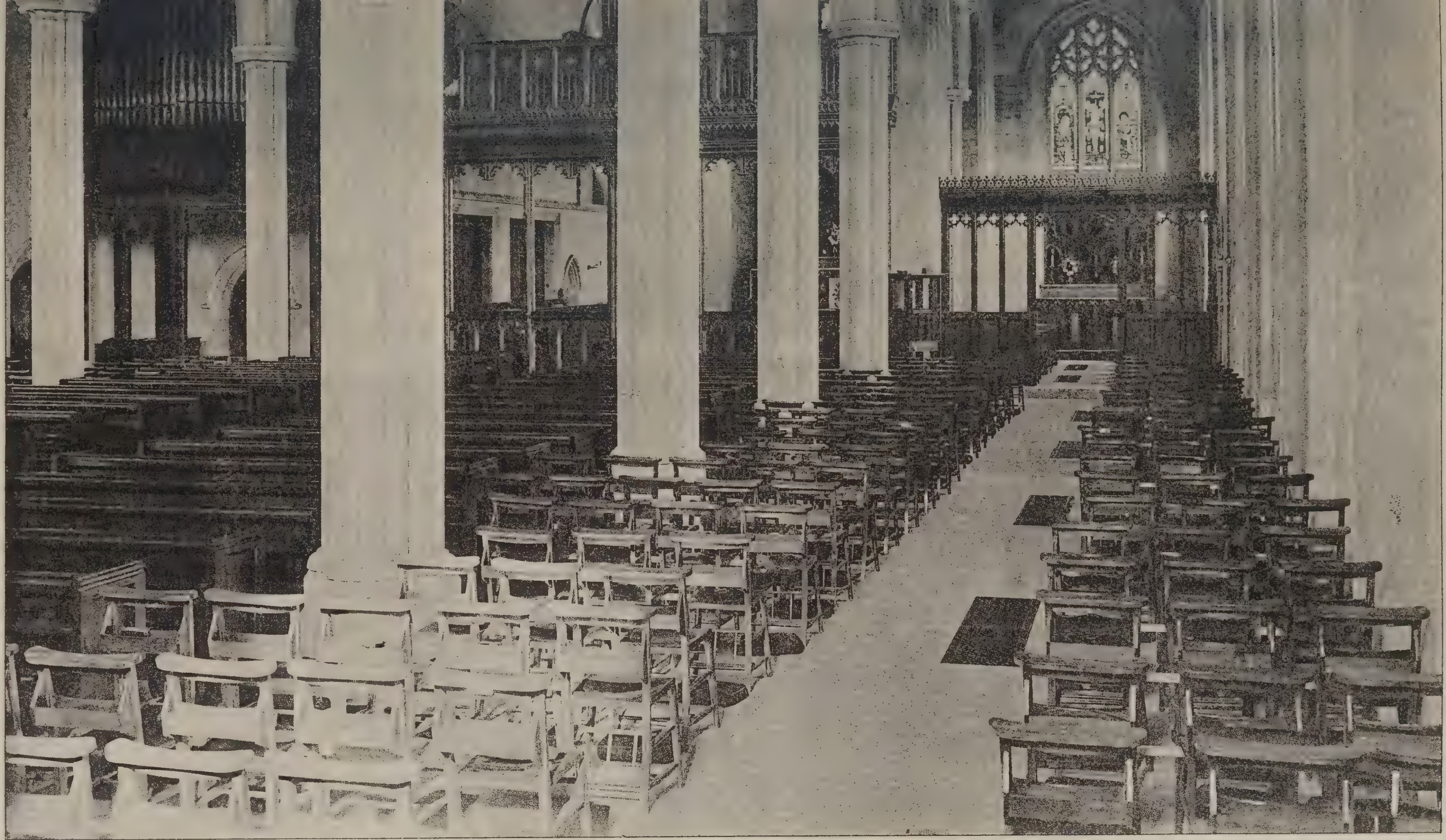

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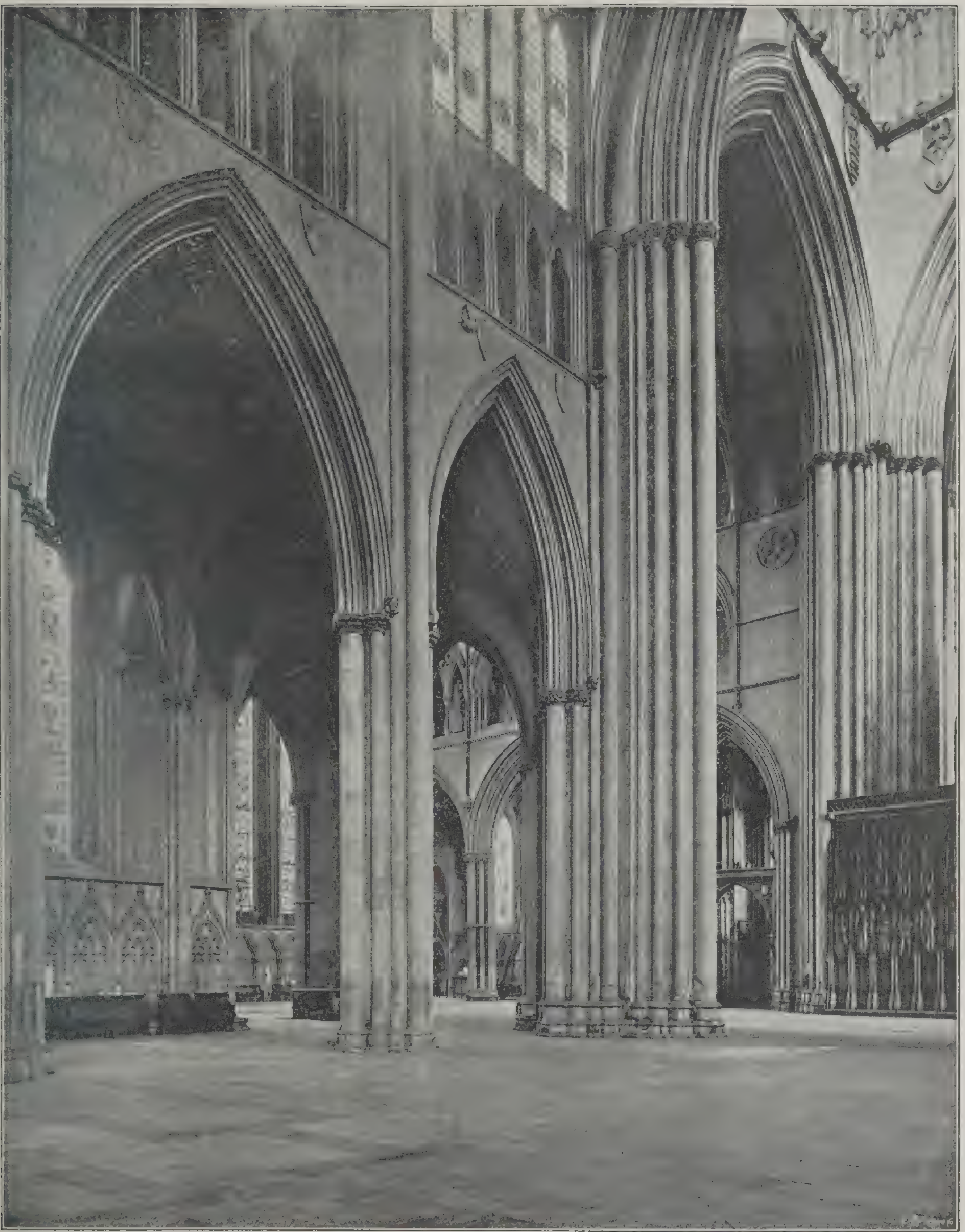
S. MATTHEW'S, CHAPEL ALLERTON, NEAR LEEDS: SOUTH AISLE.

G. F. BODLEY, A.R.A., Architect.



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CATHEDRAL SERIES, NO. 327.—YORK MINSTER: VIEW ACROSS NAVE TO NORTH TRANSEPT.

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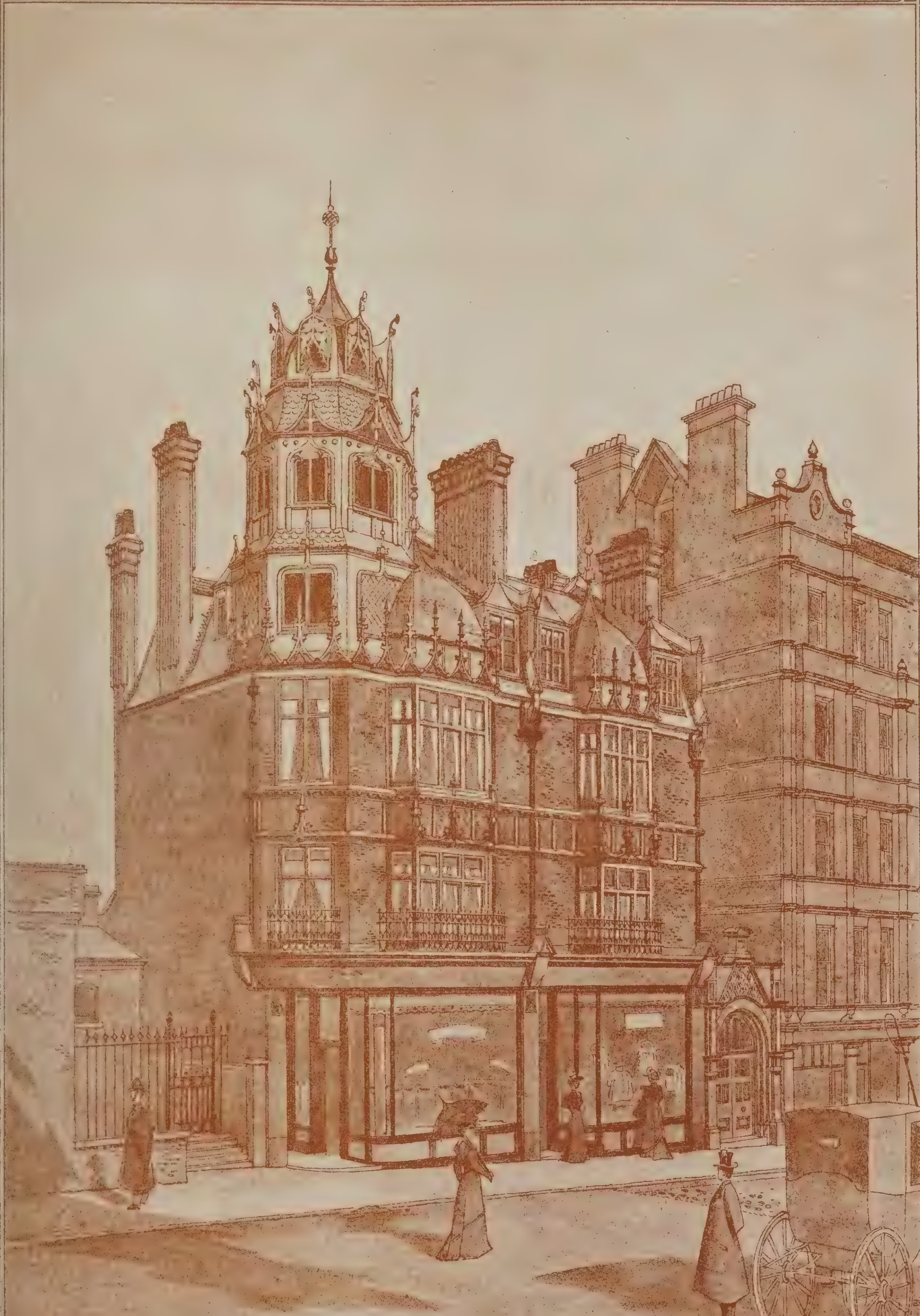

F. WALLEN, ARCHITECT.

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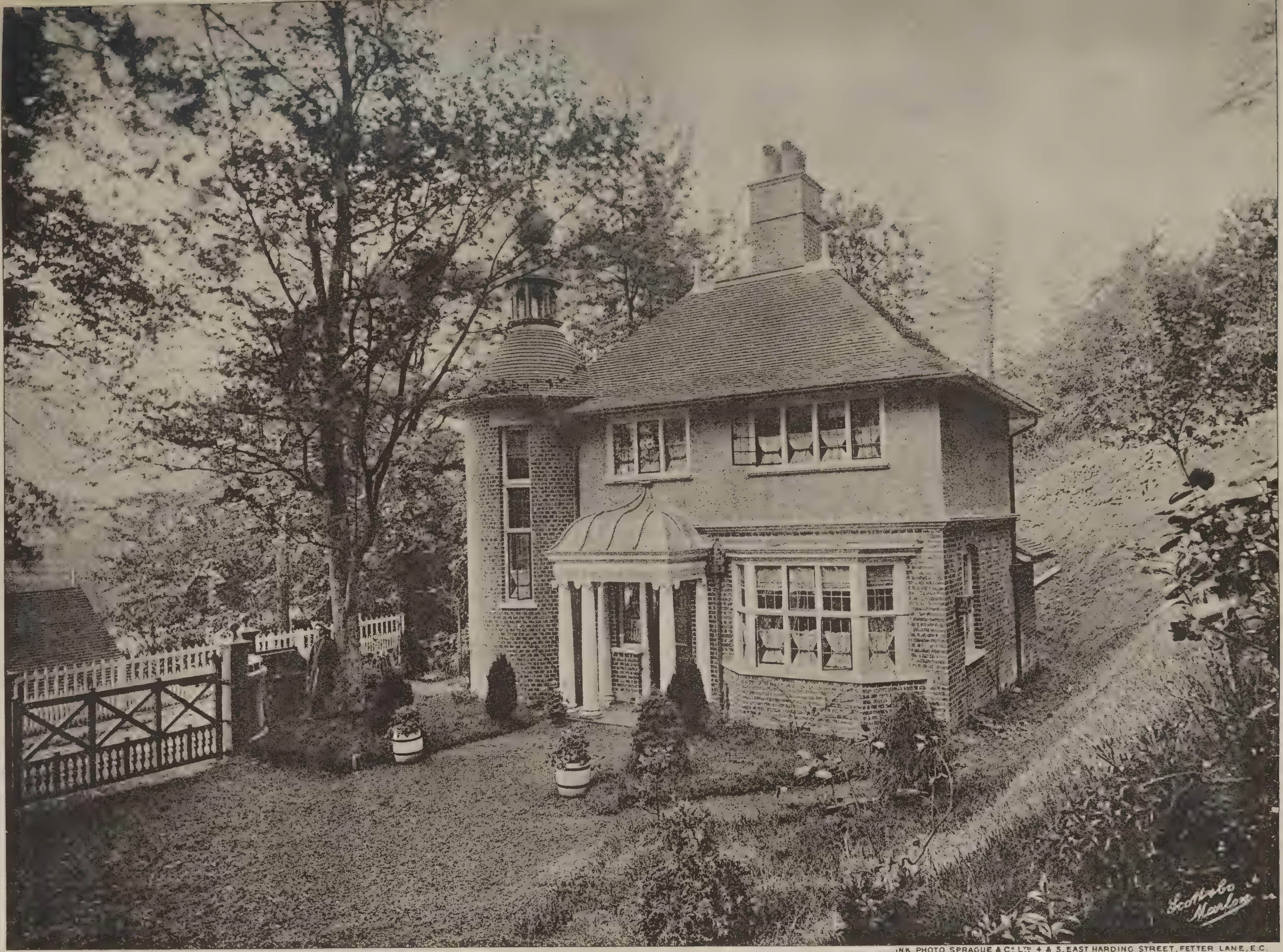

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LODGE AT MARLOW.

R. A. BRIGGS, Architect.

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The Architect.

THE WEEK.

When the portrait commonly called the *Duchess of Devonshire* was exhibited in London a quarter of a century ago, the late Sir John Millais expressed the opinion that it was not all Gainsborough's work. There are few of the artist's pictures to which a similar judgment is not applicable. Gainsborough laid on his colours with a light hand, for he was an expeditious painter and his canvases were not always valued as they are in our time. But whatever reparation the picture may have sustained, it is a fine work of its class, and the commotion caused by its sudden disappearance was justified. The concealment of the portrait during so many years will of course add to its popular interest, and we may expect a long time to elapse before it is handed over to a public gallery. All the controversies which arose when it was brought forward in 1876 will be revived, and it may be increased in number. It suggests the joyousness of Gainsborough, for there is no memoranda of his which can enable us to identify the subject or to reveal the person for whom it was painted. According to a general belief the portrait was at one time a full length, but it was diminished in order to make it fit into a limited space. It is not impossible that the scrutiny to which it will be subjected when next exhibited in public will suggest other alterations in a former time. But the picture is one of those which can stand many changes without much deprivation of its quality, and when last seen artists and amateurs were willing to acknowledge that no portrait was better adapted to sustain the reputation of Gainsborough. It is to be hoped it will be unnecessary to hear of the removal of the work to the gallery of some foreign purchaser.

Liverpool is about to have an amended code of by-laws for building. The enactments are at present being discussed by the health committee of the Corporation. One of the proposals was that where houses were built on wet or damp sites the foundations must be covered with a bed of natural asphalte. A member moved to amend this by-law by substituting "improved" for "natural." He maintained that a foundation of improved asphalte, including, as it did, a mixture of gas tar, was much more effective for preventing dry rot and vermin than the concrete foundation insisted on by the by-law. Other members supported this view, one of them saying it looked as if the by-law was an attempt to use an expensive material not easy to obtain. Supporters of the by-law said the improved asphalte foundation had no life after a few years. Concrete was recommended by the medical officer of health. Another member went so far as to assert that from the circumstance of all the builders in the Council opposing the by-law there was the best of reasons for passing it in its original form. So rash a statement was fatal to "natural" asphalte, for there was no difficulty in obtaining a majority in favour of the "improved" variety.

A description has been given by Mr. C. H. W. Johns, of Queens' College, Cambridge, of an Assyrian tablet which he believes is descriptive of a structure which there is some reason for supposing was Noah's Ark. The tablet relates to something which may be inferred to have been a boat 788 cubits in length over all and 410 cubits in breadth amidships, carrying a box-shaped house 660 cubits long, 390 cubits broad and 150 cubits high above the deck. It is possible that the roof sloped from a central ridge. Also the dimensions given may be those of a rectangular raft. In either case there would be a free space 10 cubits wide along the sides and 64 cubits wide at the ends to serve as a "deck promenade." If we prefer to take 660 cubits as the height, part of this may have been submerged; but in any case we should have a curious shape for an ark, though one quite admissible for an imaginary temple tower. What increases the interest is that the structure seems to have been intended to contain animals of a different kind to those which would be selected by a king of Nineveh for a menagerie or zoological gardens. They consist of those which are used as helpers or servants, while others may have been intended for food. Mr. Johns maintains that the extraordinary dimensions of the building and the singular selection of animals, as remarkable for its omissions as for its contents, seem suited to no other explanation than that we have here a summary estimate of the size and contents of Noah's Ark.

In connection with the Royal Society of Antiquaries of Ireland a photographic survey collection has been established. Already no less than 1,543 subjects have been represented, the proportion from the different provinces being Ulster, 211; Leinster, 422; Munster, 584; and Connaught, 326. The collection was commenced in 1891 by Mr. Julian G. Butler, and continued for about a year. The photographs then collected were not permanent, and the counties were not kept separate. Mr. J. L. Robinson, architect, originated the present system when appointed curator in 1892. His lamented death in 1894 prevented the carrying out of his designs. A new departure has been lately attempted by having seven albums bound permanently. Each county is to form a series in itself, and when enough mounts have been filled, a new volume (its pagination continuous with the earlier volumes of the same county) will be bound, and a complete index kept of all the bound photographs. The photographs are, in all cases, platinotypes, and the Society is willing to get prints taken from negatives lent to them. There is not uniform zeal to secure photographic records. Armagh, Carlow, Cavan, Cork, Fermanagh, Leitrim, Londonderry, Longford, Monaghan, Queen's County, Tyrone, Waterford and Westmeath have contributed far fewer plates than Clare, Down, Dublin, Galway, Mayo and Meath. The Round Towers, with the exception of Balla, in Connaught; Rattoe, Kinneigh and Ardpatrick, in Munster; and Ram's Island, in Ulster, are completed. Athassell and Lislachtin monasteries still call for attention, also Grianan Aileach and Loughcrew. The Donegal and Cork prehistoric remains are practically absent from the albums. The number of views in each county at the end of 1900 was as follows:—Antrim, 45; Armagh, 3; Carlow, 5; Cavan, 10; Clare, 383; Cork, 29; Donegal, 37; Down, 74; Dublin, 105; Fermanagh, 15; Galway, 125; Kerry, 65; Kildare, 19; Kilkenny, 54; King's County, 44; Leitrim, 12; Limerick, 56; Londonderry, 3; Longford, 17; Louth, 34; Mayo, 121; Meath, 69; Monaghan, 6; Queen's County, 5; Roscommon, 28; Sligo, 39; Tipperary, 31; Tyrone, 8; Waterford, 20; Westmeath, 29; Wexford, 32; Wicklow, 27.

A work which dates from 1786 may have no claim to be regarded as ancient, but so many changes have occurred in Paris since the first Revolution, the Barrière du Trône is well entitled to the protection of an archæological commission. Many visitors to Paris have never seen the two columnar structures each standing on a lodge at the end of the Faubourg Saint-Antoine, for they are some distance from the heart of Paris. It is one of the survivals of the barriers which the farmers-general or contractors for taxes had constructed in order to levy imposts on goods entering the city. The Barrière du Trône obtained its name from the circumstance that in 1660 Louis XIV. and Marie-Thérèse received on a throne erected on the spot the homages of the citizens. It was proposed in honour of the event to have an immense triumphal arch erected, but Louis XIV. was not satisfied with the designs and the project was abandoned. The pavilions and columns that are now seen were erected in 1786 under the direction of Charles Ledoux, an architect whose reputation was not confined to Paris. But it was not until 1844 that the columns were surmounted by statues of St. Louis and Philippe-Augustus. The Place now possesses decoration of another kind, and it was decided to demolish the columns and pavilions. The Commission of Old Paris arose against the scheme, and the result is that an interesting work has been saved, at least for a time.

THE COMPETITION FOR THE NATIONAL MEMORIAL.

In our last number we gave, with manifest reserve, the names of the five competitors who were said to be selected to make designs for the architectural portion of the Queen's Memorial. There was no official announcement of the arrangement, and wanting that kind of authority, everyone was warranted in refusing to believe in the possibility of the committee having so little knowledge of the general desire of architects on the subject as to suppose they were justified in restricting the competition as much as possible. If the principle could be admitted that such a competition was best adapted to meet the circumstances of the case, nothing could be said against the eligibility of the five architects who were appointed to demonstrate the architectural power of the country. If we were to imagine an international competition taking place for a work which was not of an entirely novel character like the proposed memorial, to which England was allowed to send five representatives, the architects named could point to adequate credentials to support their selection. The reputation of the Royal Academy might be confided to Mr. T. G. Jackson and Mr. Aston Webb. Mr. Ernest George has long ago shown himself to be deserving of academical or higher honours in architecture. These are the representatives of the Metropolis. Sir Thomas Drew has been often recognised as worthy to uphold the interests of Dublin, and Dr. Anderson those of Edinburgh. It would, no doubt, have been better if, in addition, the provincial towns of England possessed somebody who could be taken as embodying their ideas, and from the peculiar position of business in Scotland a Glasgow architect has at least as much right to have a share in the struggle as one living in the Scottish capital.

There are, however, many reasons against risking the success of so important an undertaking by assuming that one out of so few architects must inevitably succeed in producing a magnificent work of art which will embody the aspirations of the Empire. We need not say that the question whether limited competitions produce better work than those which are general is a subject of controversy. The former class has undoubtedly one advantage in its favour. It is much easier to judge a few drawings than a large number. Competitors themselves readily admit that the task of comparing rival schemes with their own is exhausting work. No money is earned with more difficulty than that obtained for reporting on a great many designs. For so many considerations have to be taken into account, a conscientious assessor is sure to find that the reckoning of the points for and against each design is more fatiguing than the solution of difficult problems to a mathematician.

We must also bear in mind that the members of the executive committee on whom the labour of judging and selecting the designs will fall have already occupations which are enough to engross their working as well as their spare hours. Lord Esher is the motor force at the Office of Works; Sir E. J. Poynter has to direct the Royal Academy at the busiest time of the year; Mr. Sidney Colvin is, like other keepers of the British Museum, overworked; Mr. Emerson is a practising architect, and the calls on his time by the Institute cannot easily be set aside. When the majority and the most authoritative members of the committee have so little leisure, they may be pardoned if they endeavour to bring the competition within bounds which they can grasp without inconvenience.

If the subject were of an ordinary character we should be disposed, after taking into account all the circumstances, to approve of the contest becoming a limited one. But the competition for the Queen's monument is one of unparalleled interest. We lately described the circumstances under which the memorials of predecessors of the late Queen, three kings who reigned in England for three-quarters of a century, were erected, and it will be found that not one of them presents any parallel with the present case. The three statues are unworthy of popular sovereigns; the subjects might have been plebeian worthies. Queen Anne was supposed to be admired, but there was no great eagerness to erect anything which could be called national or fitting to recall an Augustan age. For the memorial of Elizabeth which was placed in Westminster Abbey the credit is to be given to James I. Great as was the queen who typified English courage before a powerful foe, she might have been left without a monument if James I. had not desired to commemorate his mother, and policy decided that precedence should be given to the English queen's memorial rather than to the more expensive one of her victim.

A new era in royal monuments is beginning, and as the occasion is therefore extraordinary, advantage should be taken of it to reveal as far as possible the number of the people who hold the Queen in affectionate remembrance. The subscription list will, of course, be evidence of the strength of the national sentiment; the contributors will not be confined to the wealthy alone. But loyalty is not to be expressed by money only. There was a time when an immense quantity of poems would be inspired by the loss of Queen Victoria, but this is not a poetic age. The spirit which once made itself heard in verse now turns to find utterance in art. The designs may not be of higher quality than the rhyming of a past age, but they will be at least as sincere and as worthy of attention. Can it be assumed that with 5,000 architects in the country we should be content with the drawings of five among them, especially when it is known that not one of the five has had occasion to produce a monumental work remotely corresponding with the conditions of the case? Privileged and unprivileged are in the same condition. Everyone who knows architects is aware that a great many of them are most anxious to take part in the preparation of the designs, not so much from any excess of confidence in their own powers or belief in their luck as from the conviction that there is an idea to be expressed, and it is their duty to put it into form with all the power they possess. So worthy a motive should not be cast aside with contempt through fear of disturbing the convenience of a very small body of gentlemen. Even if we assume that the majority of the designs submitted in a general competition are not of the best quality, the effort which would have to be made to create a work of so novel a character would exercise an educational influence of which the effects are not easily to be foreseen. Moreover, a competition conducted on a broad scale would be the crowning act of the numerous endeavours to elevate English art which have characterised the reign of Queen Victoria. We should also recollect that inspiration does not always come at command even in the case of the cleverest artists. It is almost whimsical in its visitations, and it is just as likely to come to the aid of some young and unknown architect in a back street in Bloomsbury, in a provincial town of England or Scotland, in Montreal or in Sydney, as to any of the five competitors.

We need no stronger proof than some recent limited competitions that able men are not always in their happiest moods in such confined struggles as that which the executive committee have marked out. An architect's reputation sometimes becomes an obstacle to the fullest exercise of his designing powers. Having the conviction that he is expected to surpass himself, his vaulting ambition o'erleaps the saddle and comes to ground. In many cases it is possible to make experience serve as a substitute for inspiration, but for the work that is required something from a more spontaneous source is desired, and we trust no memorial will be erected which only reveals the triumph of adaptive power in an emergency where all was barren. The confusion of mind which may arise under such circumstances with a practised architect is exemplified by Scott's Albert Memorial in Hyde Park. It suggests an altar with a great many images of saints and angels, the gilded figure of the Prince occupying the place of the usual tabernacle. Scott owned in his "Memoirs" that he was unable to determine whether the idea of the memorial was derived unconsciously from the ciboria in Roman churches or came to him as an abstract thought. It is not to be expected that a work arising under such conditions can be remarkable either for inspiration or originality. The unconscious is a dangerous element to rely on. The Hyde Park structure is effective because it is costly, but that judgment, we hope, will never be applicable to the memorial of the late Queen.

As we have said above, a large number of designs forwarded from all parts of Great Britain or the Colonies would require more careful examination than could be given by a party of gentlemen, with amateurs among them, who have other calls upon their time. But there would be no difficulty in finding a great many experienced and impartial architects, painters and sculptors who had taken no share in the preparation of designs, but were thoroughly qualified to assess the value of those sent in by other men. Under a test of quality the designs would gradually be reduced, and the results need only come under the consideration of the executive committee. Whatever design was selected could then be accepted with good reason as an expression of national skill in architecture. But no matter how excellent is the design selected under the present arrangements, it will always be said that it was simply produced by one of a few favourites, and was inferior to many others which could have been secured under more equitable conditions. The executive committee have acted arbitrarily, and it would be difficult for them to produce evidence to show that by beginning in that spirit they will secure a successful issue. The reasons, in fact, are so numerous in favour of a general competition, we are surprised that the executive committee should have had the hardihood to set them aside without offering any reason. As far as we can see, there is no urgent need which demands the completion of the designs within the specified three months. Reputations, it is true, are often of no more than momentary duration, and it is well to take advantage of temporary fervour; but Queen Victoria's is of another class, and will last as long as the Empire she ruled.

BUILDING SPECIFICATIONS.*

It would often be interesting to ascertain the number of times an ordinary specification is referred to while the works are in operation. As a rule that important document is not so much in request as is generally imagined. A builder or a manager who possesses experience has a summary method for ascertaining what has to be executed on a contract. In all buildings much has to be utilised which is already prepared and available in the market. No very elaborate calculations are required to discover the quantities of such materials or other goods, or the price which is to be given for them. If there was a certainty that building operations should be carried on from start to completion without any hitch, it would be possible to employ specifications like those which were in use forty or fifty years ago, allowance being made, of course, for the novelties which have been produced and which are now regarded as indispensable. It cannot, unfortunately, be presumed that a building contract will be terminated without any chance of litigation, and the writer of a specification must provide against all contingencies. It is now necessary when preparing a specification to bear in mind the possibility that it may one day be exhibited in a law court and have to go through the ordeal of an investigation by counsel, jurymen and judges. With such a prospect it is not to be expected that specifications can any longer be marked by their primitive simplicity.

We are now publishing illustrations of the Minster at York, and in connection with that building there are several of the fourteenth-century indentures and agreements which are enough to amaze a modern surveyor by the rashness with which the clergy placed their interest in the hands of contractors. Plumbers, glaziers and others only required a few lines to describe their liabilities. One glazier was to find glass and to be paid at the rate of 6*d.* a foot for plain and 12*d.* for coloured glass. Another glazier was to paint the great eastern window in three years: he was to receive 4*s.* a week and 100*s.* for each year, and if the authorities were satisfied with his work he was to receive 10*l.* in silver at the end of three years. For the wonderful roof at King's College Chapel, Cambridge, it was thought to be a sufficient specification to say that the contractors "shall make and sett up, or cawse to be made and set up, at ther costs and charges a good, suer and sufficyent vawte for the grete churche there, to be workmanly wrought, made, and sett up after the best handlyng and forme of good workmanship, according to a plat thereof made and signed with the hands of the lords executors to the kyng of the most famous memorye Harry the 7th, whose sowle God pardon." Many of the great engineering works which have made the nineteenth century memorable were carried out with the aid of written instructions which were equally brief, and which displayed no less confidence in the contractor and superintendence. All that is very different to modern practice. In a specification, for instance, of a house at Leatherhead which is given in Mr. Leaning's new work on specifications, there are about 720 numbered clauses. The specification in type is about the size of an ordinary volume. It cannot be said that, however numerous may be the clauses which now are commonly found in specifications, many of them are superfluous. If they are considered likely to prevent costly legal contests, there can be no objection to a still larger number. Courts may easily think that an absence of the description of any item of a contract is sufficient to make the specification be treated as having little or no legal value. It was laid down by Lord Chelmsford that a contractor ought to have full information of the nature of the work he proposed to undertake, and if he were unable to understand the specification then he should employ some skilful person to give him instruction. A ruling of that kind is fatal to brevity.

It often happens that specifications are used which would not sustain examination in the fierce light of Courts, and if no harm arises from them it is owing to the general practice of builders to be tolerant of defects in their instructions so long as the consequences to themselves are not over-expensive. Mr. Leaning does not exaggerate when he says specifications are to be met with having "descriptions of materials and workmanship for a cottage which would be appropriate to a mansion; in others, of work for a building of the best kind which would be too common for a warehouse, or of materials which have ceased to be used." There are architects who might be supposed to have a superstitious reverence for the specification they were made to copy in the days of their pupilage, for they employ it with only a few modifications which are unavoidable when modern requirements have to be met for all the buildings with which they may be entrusted. It is not difficult to imagine the consequences which would arise if a specification of that class had to be scrutinised by unfriendly eyes.

In the book which Mr. Leaning has prepared an effort is made to supply precedents and to explain the principles on which they are based. There is, for example, the complete specification for the house to which we have referred, with partial specifications relating to churches, warehouses, baths, schools, &c., and for special work such as electric lighting, ironworks, terra-cotta, Victoria stone, faïence, &c.

Under the heading of "Notes on the Various Trades and Special Sections of the Specifications," a vast amount of information relating to all the operations of building will be found, ranging from the bearing power of soils to the fixing of wooden letters. But throughout the main purpose of the book is respected, and the novice will learn the most efficient manner of specifying the elements of a building however diverse they may be. It shows the completeness of Mr. Leaning's treatment when we meet with several pages devoted to suggestions about keeping a commonplace book, which is one of the most useful aids a young architect can possess. We give one extract relating to prices, a subject which often worries architects when they are expected to give estimates in a hurry. Mr. Leaning says:—

> The student should have a book for each trade, and enter every price that comes in his way in its respective book, every element which has affected the cost of work, all the information obtainable as to the working of particular materials, relative values, weights and measures which are novel, &c., and in every case date the item and state its derivation, as both source and date are important. The student should also seize upon every opportunity which may offer of observing and making notes of the time and material expended upon certain quantities of work. The most valuable will be those of larger bulk, as from these more reliable results may be deduced for the valuation of smaller quantities. For example, the notes of the production of a thousand yards of concrete will yield a more reasonable average than ten. This practice will, besides enriching his store of information, help the student to foster

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* *Building Specifications for the use of Architects, Surveyors, Builders, &c.* By John Leaning, F.S.I. London: B. T. Batsford.

habits of observation and precision such as would be worth very much more trouble to acquire.

In connection with the subject trade lists are advantageous. Mr. Leaning's book can be recommended as a most useful addition to professional literature. It is well arranged, and the indexes enable the reader to arrive at the desired information without any loss of time.

CLOCKS, CARILLONS AND BELLS.*

In introducing these three subjects to your notice in the order named, I propose to commence at once with the practical application of each to present-day requirements, and to relieve the dryness, inseparable from a technical paper, by the introduction of drawings, models and illustrations, which have been specially prepared for this occasion.

Tower clocks may be divided into three classes :—

1. The timepiece, or non-striker.
2. The striking clock.
3. The chiming clock.

In the case of non-striking clocks, the question of surroundings does not matter, but for striking and chiming clocks the conditions of traffic should be carefully considered. We have a good illustration of this in the case of the clock at the Royal Courts of Justice, where the quarter bells, although weighing five tons in all, are often imperfectly heard unless there be a lull in the traffic. Then again provision should be made in towers for the sound of bells to escape. This is done by cutting openings in the walls at belfry, and inserting louvre boards to keep the wet out. All this should be thought of and provided for whilst a building is in process of erection, and not wait until it is finished. Another equally important matter in connection with the erection of a turret clock is provision for the ascent and descent of the weights. All large clocks are driven by weights, and the longer the drop the less winding required. The most convenient form of providing for the weights is to let them descend in one of the corners of the tower, trimming each floor they pass through and casing them in with wood to prevent anyone standing underneath. The safest arrangement is for the weights to run to the ground, but, where this is impracticable, they may descend to a "set off" in the wall, or to steel girders built in to stop their progress should the line which supports them give way at any time.

Keeping pace with the times, public clocks have been improved upon in their construction and manufacture, as one generation succeeds another.

In support of this statement we have before us the old St. James's Palace clock, which, up till twenty years ago, did duty on that historic building. Although there is no date on this clock, it is evidently 200 years old, and the inscription plate on it notifies that it was restored by order of the king, William IV., in 1832, by Mr. Vulliamy, the Court clockmaker. As you see, it is still capable of work, but it is lightly constructed, and lacks the stamina and power of clocks of modern times. In comparison with it we show you a small turret clock of modern construction, which we made and exhibited at the 1889 Paris Exhibition. Machine-cut wheels and pinions now take the place of the hand-cut wheels of former days, and the entire work is carried out in a weightier and more substantial manner. This is absolutely necessary when we consider the growth and increased traffic of large towns, which require that their public timekeepers should be well heard. Fifty years ago the chiming machinery at the Royal Exchange was considered equal to its obligations. Five years ago we took it away, and put a machine with hammers of double the weight.

Without boring you with too much technicality I ought to mention briefly the component parts comprising a turret clock. The frame containing the works should be of cast-iron in one solid casting, which thus insures absolute rigidity and immunity from warpage. Then the feet should be planed so as to stand perfectly level, and the top of the frame, on which the bearers rest, should be treated in the same way. In the best clocks nothing but gun-metal wheels are now used. Brass was formerly the rule, but it is a softer and more spongy metal than the former, and therefore not so durable.

The pinions also, in a first-class clock, which run in the toothed wheels, should always be cut out of solid steel where there is heavy work to perform. Many clocks are made with lantern pinions, as being very much cheaper. The result is that, should the pin wires get the least bent or misplaced, they begin to cut into the teeth of the wheels like a knife, and soon render the wheel useless. The best kind of pendulum for a turret clock is that which is compensated.

Clock towers are, as a rule, damp and changeable in temperature. Wood, therefore, warps and gets out of shape, so a metal pendulum is a decided acquisition, and by making it of zinc and iron tubes, with a centre rod of steel, compensation for changes of temperature is thus secured. The days of long pendulums are over. The pendulum of the church clock at Rye, in Sussex, which occupies four seconds to the beat, is 56 feet long, and swings in the body of the church. This is very inconvenient, and now quite unnecessary. The largest pendulum we ever make is 15 feet 8 inches, and beats once in two seconds. We always take care also when fixing a two seconds' pendulum to hang it against the wall out of the way. This entails putting the works of the clock against the wall, and this is often necessary, the floor not being strong enough in the centre. In olden times one solid weight was used for driving purposes. This was inconvenient if the line supporting it happened to break, as the weight, being a solid, heavy mass, was difficult to be reinstated. It is the usual custom to divide the actual weight for working into so many segments, so that a section may be added or removed at will, and for restoration of suspending cords. These latter are now of all steel wire, and devoid of any hemp strands, which reduces the breaking strain, as also does galvanising. The hammer work in connection with a chiming or striking clock is an important feature, and is often overlooked. In order to do justice to the tone of the bells the hammers which strike them should be a certain weight, and allowed to fall a proportionate height. They must also be kept clear of the bells, and not allowed to touch except by the force of their own momentum in falling. This is effected by means of strong steel springs attached to the bell frame, and on which the hammers, on being released by the clock, fall.

All hammer work in clock towers should be attended to occasionally, the bearings oiled, the wires renewed, and the iron-work painted.

The accepted ratio for the weight of a hammer to its bell, to bring out the full tone, is one-fortieth, and this should not be exceeded for safety. Chime-hammers need not be so heavy in proportion, the sounding of the hours being the chief feature in a striking clock.

Having given you a brief summary of the internal mechanism of the clock, I now come to the question of clock faces or "dials," as we call them. These are for the most part of three kinds :—

1. The cast-iron skeleton frame.
2. The sheet copper.
3. The white "opal" face for illumination.

We have a sample of each before us. The first is especially adapted for village churches, where there is no prospect of illumination, and it is frequently the only face possible for ornate or sculptured towers, where a solid black face would be an eyesore. Where these skeleton faces are adopted they should be fixed to stand out a few inches from the wall, when they show up in relief to greater advantage than if nailed on the flat. Iron, however, rusts after years of exposure, and begins to corrode, and the paint and gilding, if not renewed, wear off, leaving the metal bare and unsightly. The renewal of paint and gold-leaf is a simple and inexpensive process, and should be undertaken about once every ten years.

The copper face, planished convex and painted black, with gilt figures and hands, is the most durable of all dials. Nothing stands the elements so well as copper, and it has the great advantage of being impervious to rust. It will turn green in its old age, but it never decays or falls to pieces. A copper clock-face should last a century. Sometimes copper "dials" are painted in various body colours, as this one is, as a relief, but for churches and public buildings, black and gold are the standard colours, and stand the weather best.

The opal glass dial is the most popular, as it can be illuminated at night. This is formed of an open cast-iron framework, glazed with opal glass. Several kinds of glass have been tried in this connection, but there is only one that is a success—the opal. Plate-glass has often been tried, but it becomes discoloured and brown. If it is ground, the rough surface collects and retains the dust ; if it is stippled, the paint chips off in time, whereas opal glass always retains its original whiteness, and the more rain it gets the fresher it looks. Even with opal glass, as with everything else, there is more than one quality. There is the flashed opal and there is the solid opal. Until twenty years ago nothing was used but the former, which is infinitely superior for illumination ; but with the increasing thirst for cheaper prices which consumes the British public the poor clockmaker was forced in self-defence to compensate his losses by the introduction of the solid opal, a glass which costs a quarter the money and causes twice as much gas to be consumed. Keen competition is not an unmixed blessing all round.

The small illuminated dial before you is glazed with flashed opal. It is no better in the day than the cheaper glass, but after dark there is no comparison. The figures are cut out of sheet copper, and the circles are bent round out of zinc sash bar. This gives a neatness and finish to the work not obtainable in castings. In order to relieve the glaring whiteness of opal glass, we sometimes introduce coloured glass in front of the opal, bedding the two firmly and closely together, so that no dust gets between them. We have just carried this system out at Windsor Castle, and the effect is artistic.

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* A paper by Mr. A. A. Johnston, read at the meeting of the Society of Arts on March 27.

As to the size most desirable for a clock face, the generally adopted rule is 1 foot diameter for every 10 feet elevation. This is seldom exceeded, although, unfortunately, it is very often reduced to an inordinate degree. We have on the wall a clock face of rather imposing dimensions. This is a full-size diagram of the clock we are now erecting at Toronto City Hall. These faces are surrounded by an ornamental cast-iron moulding, weighing 25 cwts. The strokes representing the hours are 2 feet 9 inches long and 12 inches in width.

The minutes are 6 inches long by 3 inches wide. From centre to centre the distance between the minutes is 11 inches, which, therefore, is the distance traversed by the long hand per minute—55 feet per hour, quarter of a mile per day, and 91¼ miles per annum.

There is a specialty of our firm in this clock known as the Remontoire Train. We seldom introduce this in ordinary clocks as it is expensive work, but for exceptionally large faces such as these it is an absolute necessity in order to overcome the inertia of the hands. Briefly the principle of it is to accumulate the power of the clock till the completion of the thirtieth second, when the four pairs of hands move forward simultaneously and occupy the alternate divisions. As each pair of hands with counterbalance weighs 2 cwts., you can appreciate the advantage of this patent. The ordinary hand on a tower clock is cut out of copper sheet, 18 B.W.G., and stiffened at back with cast-brass ribs to prevent the wind blowing it about. These Toronto hands are made differently and much more costly They are elliptical, formed of double sheets of copper, convexed towards the centre, and rivetted together every 4 inches at the rim. They have also internal brass cross-bars for rigidity. The minute hands are 9 feet long by 9 inches wide at base, tapering to 6 inches at top, and weigh 56 lbs. each. The hour hands are 5 feet 6 inches long, 14 inches broad, and weigh also 56 lbs.

When it is borne in mind that those hands have to do their work at an elevation of 250 feet from the ground, and under climatic conditions of great rigour during the winter months, you will readily understand that much care and attention has been necessary in order to insure a steady performance of this clock, which we understand will be the largest clock yet erected in the New World.

It may interest you to know what those faces will weigh when completed. The face itself is cast in twelve sections bolted together. Each section weighs 2½ cwts, so the dial altogether weighs 30 cwts., or the four faces 6 tons. The inner circle (which is made to open to get at the hands for clearing away snow, &c.) weighs 2 cwts. The glass in each dial weighs 15 cwts. The grand total works out as follows :—

	cwts.
Ring moulding round the face	25
Framework of dial	30
Centre framework	2
Glass	15
Bolts and nuts	3
Weight per dial	75

The weights for driving this clock are :—

	cwts.
For working the hands	15
For striking the hours	20
For striking the quarters	10
Total	45

The hammer for striking the hours weighs 250 lbs., and is made to lift 12 inches before it falls. We have just learnt that the bell has been heard 20 miles.

The illumination of a clock face is quite an important business. If left to local talent the result is generally a maximum consumption of illuminant in conjunction with a minimum amount of light. Now that the electric light is obtainable in many quarters, it offers great advantages for the illumination of clocks. Gas is the worst form of illuminant. It corrodes the works, smokes and discolours the glass, dries up the oil, and is altogether most unsuitable. Lamps are preferable, were it not for the trouble of trimming. To illuminate a clock face well, the lights, whatever they may be, must stand back not less than 15 inches from the glass.

If placed too close they will show through, instead of giving an equally diffused light.

If placed too far back they will lose their power. They must also be judiciously placed so as to assist each other, and not placed round in a circle close to the circumference of the dial (as I have so often seen them), burning twelve jets where four would give a better light, if arranged in the form of a tree. It is the clock face which is to be lit up, not the walls of the tower.

Carillons.

The word "carillon," as its name suggests, is of French origin, and signifies a chime. It is a mistake to suppose the carillon machine is of recent importation. At the present time there are many automatic tune-playing machines attached to peals of bells in various parts of the country. The reason why they are not more in evidence is because no one attends to them when they get a little out of order. We have restored many such and can make them play again satisfactorily, only with less power than a modern machine. But it is only within the last thirty years that any attempt has been made to improve on the old order of things and to introduce machinery which will play tunes automatically on bells with a certain amount of success. It is generally conceded that our first introduction to the system of automatic bell music emanated from the Low Countries. But whilst the idea no doubt originated with them, their means of putting it into execution were, and are, clumsy in the extreme. I have seen the machine in the belfry of Bruges (immortalised by Longfellow) at work, or rather at play. A Belgian machine does all its lifting and releasing direct off the barrel. This may answer where the bells are small and the hammers light, but when you come to deal with heavy bells and hammers to correspond, it stands to reason that the mere fact of having to lift weighty hammers is a great strain on the barrel itself and tends to upset the regularity of the tune.

In this country of late years we lay claim to certain improvements in the releasing power of carillon machinery, chief of which is the separation of the releasing and the lifting power. In connection with our patent system, the tune barrel lets off the hammers, whilst a continuous worm screw gradually replaces them into an uplifted position ready for another release.

The tune barrel and this worm screw have no direct connection, and therefore, no matter what the hammers weigh they do not drag on the barrel. Another advantage of these modern machines is that the barrels being interchangeable and easily lifted out and in, by having a number of them an indefinite number of tunes may be played, as each barrel is capable of playing seven tunes, and four barrels would, therefore, provide twenty-eight tunes—a fresh tune daily for four weeks. The number of tunes that can thus be played by one of these machines is limited, not by the machine, but by the number of bells available.

We have here a small peal of model bells attuned to resemble a standard ring. Inasmuch as all ringing bells must be necessarily cast, and tuned to the diatonic scale, we select our tunes accordingly to put the same bells to a double use.

By the introduction of one or two semitones, with the addition of a note above the treble, the number of tunes that can be played is greatly increased. Even on six bells a few tunes can be played, such as "Lead kindly Light," "Rousseau's Dream," and a few others. When we come to a peal of eight the selection increases a hundredfold, and but add a semitone, a B flat in the key of C, and their number is legion.

There is no mechanical reason why any tune should not be played, provided the scale of bells admits of it, but all tunes are not expedient. A tune that harps on one note is to be shunned. The best tunes are those possessed of an easy methodical rhythm. This gives the hammers time to pull themselves together again ready for the next blow. Jerky staccato music is unsuitable, and, moreover, the sound of each bell must die away unassisted, a damper not being possible as in the case of a piano, and any attempt to produce florid passages in carillon music inevitably results in chaos. For the same reason chords in campanology are not a success.

The plain simple air gives the most satisfaction. Last year I played through every tune in hymns "Ancient and Modern," in order to analyse their adaptability to bells cast in the diatonic scale. There are two of them on five bells, which can be so played, sixteen on six bells, sixty-five on eight bells, and ninety-six on ten bells. Not a large proportion out of 650 tunes. Add but a semitone or two, and you could play them nearly all, although the addition of new bells to an old peal is not always attended with success, as the alloy may be different.

In the earlier machines, such as those at Manchester Town Hall, Boston (Lincolnshire), &c., we used mahogany barrels on which to fix the pins, but of late years we have been casting the barrels in bell metal and drilling them for steel pins.

The metal barrel is preferable in many ways, as it does not twist and warp in damp towers like wood, and therefore the pins are better able to retain their original positions. The erection of these machines is not confined to this country We have put them up at such widely divergent centres as Caracas Cathedral, Venezuela, St. George's Church, Montreal, and Maritzburg Town Hall, South Africa.

Automatic Ringing Machines.

In addition to our regular carillon machinery we have lately made several automatic ringing machines for playing changes on bells, by mechanical means, similar to a band of ringers. I will show you one of these on the screen, and also illustrate its action by means of the working model. It is a convenient form of calling to service where any difficulty exists about ringers, although it has not the same sonorous effect that eight pairs of lusty arms, tugging at the ropes, would produce. It will ring for about twenty minutes with once winding.

Bells.

There would appear to be a halo of romance surrounding bells and their origin which would render almost anything one might say on the subject interesting. The industry of bell-founding is, without doubt, a very ancient one. I venture to suggest that the cymbals of old were, in reality, bells cast in a flat form, instead of the one we are accustomed to. Even at the present time there exist, in this country, bells cast in the year 1300. A bell, it seems to me, gives wonderful value for money. I do not know of any other article that is as good as new after 600 years' wear; and, even if a bell becomes cracked, it is still worth two-thirds its original value, since it can be broken up and recast, the metal itself being the chief cost. The value of a clock lies in the labour of making it; the value of a bell is principally in its material. All bells are, or should be, made of the same alloy. This is about four parts of copper to one of tin. No other metal than this is used. If you attempt to vary that rule or depart from it you will be unsuccessful. For the purposes of demonstration in connection with this paper, I had a bell cast of four parts of tin to one of copper, but it cracked in the cooling. I have had another one cast, however, and you will be able to judge it by the side of the small peal before you, which has been cast for this occasion. This peal is a counterpart of an ordinary ring of bells in a church tower, and is made of the same metals, and in the same relative proportions as regards shape and thickness.

My object in exhibiting them is to demonstrate that bells, in order to be musical and tuneful, need not necessarily be large and costly. These eight bells only weigh 10 cwts. altogether. They are not suitable for public buildings or towers of any size, but I should have no hesitation in putting them up at private residences, where the punctuation of time is all that is desired, or in public parks.

In this connection I may say, however, that ridiculously small bells have been put up from time to time by foreign firms in this country—notably at Aberdeen and Boston—and in both instances have been attended by failure. At Aberdeen the smallest bell weighs only 37 lbs., and this in a lofty tower with thick walls, and surrounded by busy traffic. Out of a peal of thirty-six bells, twenty-four are absolutely useless, and have been the cause of much heart-burning and controversy during the past decade. 3,000*l.* worth of bells lying idle (or were, when I was last there) is a source of real trouble in the Granite City, which has been turned into a city of woe, so far as its campanology is concerned, and very wrath with those who led it into such an unfortunate outlay. After this I do not think we shall see many more foreign peals erected in this country, especially as the makers charge twice as much as English founders. This small bell formed one of a Belgian peal of thirty-six bells, which hung for twenty years silent in Boston tower, until we took them down lately, broke them up, and recast them into three respectable bells, to be incorporated as semi-tones with the original English peal in the tower below, with which they are now used.

Next to the alloy of the bell, its diameter, shape and mould require close attention. We show you here a mould of a bell about to be cast. First of all, we start with the theory confirmed by practice, that a bell of a given weight must also be of a given diameter and thickness. For example—a ton bell should be 4 feet diameter at the mouth, and 3½ inches thick at the sound bow, whilst a 1-cwt. bell should be 18 inches diameter and 1¼ inches thick. There is no getting away from this rule, if you wish your casting to turn out a success. The same principle applies to all bells of various sizes. The heavier the bell, the larger and thicker it becomes, the lighter, the smaller and thinner. You see before you a full size tracing of the great hour bell we have lately cast and erected at Toronto. This bell weighs 5 tons 7 cwts, is 6 feet 8 inches in diameter, 5 feet 9 inches high, and 6½ inches thick at the sound bow. You will notice that it is not of uniform thickness. No bell can be of a pleasant sound unless its thickness varies. A bell is thickest at the sound bow where it is struck, then it tapers upwards to one-third of this thickness. If a bell were of a uniform thickness right through, it would sound dull and dead, and be bereft of that timbre and resonance which is desirable.

Here is a tracing of a Chinese bell which came into our possession some years ago. Its only virtue lay in its outer adornments—its tone was execrable, because the principles of mould, shape, varying thickness, &c., had not been followed, although the metal was the same as we use.

Another point to be guarded against in the casting of bells, is "spongyness." This arises from two causes, viz. the mould not being dry, or the metal not being hot enough. Spongyness (that is, small holes in the bell), is an element of weakness, as when a bell becomes cracked, it is often found when broken up that this has been the cause.

When a bell becomes cracked through the wear and tear of centuries, it can be recast into a new one at a comparatively small expense, as it is the metal which is the principal factor in its original cost.

When old bells are recast, it is usual to take a rubbing of any inscription on them and reproduce it on the new bell. There is a general belief that old bells contain a quantity of silver. If they do, I am sorry to say none of them ever came our way. In breaking up old bells we have invariably found what we ourselves use at the present day, copper and tin, and in much the same proportions.

I will now explain briefly the method of bell-casting. We take the mould which has previously been built up on an iron plate and lower it into a pit already dug in the ground, of a sufficient height to envelop the bell. This mould is called the "core," and has been built up of bricks and loam and dried hard in an oven. The "core" being now placed below the level of the base of the furnace, the case, which has been built up and baked in a similar manner, is then placed over it like a glove, but leaving a vacuum space between the two, of the prescribed thickness of the bell.

Any inscription to be cast on has already been impressed on the loam of the case so as to form part of the metal when run. The alloy having previously been mixed in the proportions already referred to, and being now reduced to liquefaction as the result of being in the furnace some hours, the furnace is tapped, the molten metal, finding an outlet, rushes down an inclined conduit into the crown of the mould, and in a very few minutes the vacuum is filled and the whole—core, case and bell—are allowed to remain in the ground for a day or two to cool. A 5-cwt. bell could be dug out the next day. A ton bell would remain too hot to touch for two or three days. The process of casting is but the consummation of days and weeks of preparation. It takes five minutes to run about 1,000*l.* worth of bell-metal.

The tuning of a peal of bells is a delicate business. So long as bells are used singly it does not matter much what note they turn out, but where bells are required to act in concert with each other then the question of tuning them to harmonise has to be taken into account. I will show you on the screen a bell in the act of being tuned. The bell is fixed mouth upwards and held firmly in the grip of powerful vices. Having taken a plumb of the centre we adjust our steel cutter to the sound bow of the bell and proceed to pare off the metal at its thickest part. This is how a sharp bell is flattened in tone and it can be done without detriment to the bell up to half or even three-quarters of a note. If you keep on turning it out the bell would become thin and "panny" in sound.

To sharpen a flat bell is not so easy, indeed we seldom attempt it, preferring rather to take the bell into stock or even to recast it than to waste time over what generally results in failure. There is a theory extant that a flat bell can be sharpened by reducing its diameter. I believe the note of a flat bell can be slightly sharpened in this way, but we have also found that the application of this principle prejudicially affects the tone of the bell—hence we generally contrive to cast our bells sharp so that they can be easily flattened, if necessary, to the required note. Sometimes they come out exactly right, and that is the best form of "tuning."

The same bells may be used in a variety of ways. They may be (1) rung in peal by a band of ringers; and also (2) chimed upon externally by a clock; and (3) chimed upon by a carillon machine; and lastly (4) struck by a hammer pulled by hand. Each bell may thus be requisitioned in four distinct ways, neither method interfering with the others. It is not, of course, possible to put these various practices into use simultaneously.

When a bell gets worn in one place through the tongue striking there for generations, it becomes weak in that particular spot and runs the risk of cracking in consequence. What should then be done is to quarter turn it round in its pit so that a fresh substance is presented to the clapper as the bell swings. In determining the weight of bells to be erected in a given building, attention should be paid to internal measurement of tower, thickness of walls, elevation of belfry, and conditions of traffic. Bells should be proportionate to the tower; large bells for large towers, small ones for small towers. Another not unimportant factor in deciding as to the calibre of bells is the question of funds at disposal. We are sometimes requested to provide a 1 cwt. bell of a rich mellow tone. Unfortunately it cannot be done, there is not enough financial inducement to make it rich, although there is no reason why it should not be a clear full tone and pleasant to the ear.

The last specimen I have to present to you to-night is a hemispherical bell. Some call them cup bells. It is of the same composition as the others, but different in shape, and of an almost uniform thickness. It is not a species of bell we recommend, and you will probably confirm this when you hear it. The only point in favour of hemispherical bells is their deeper tone, as they are so much thinner, but they have no clear defined note, the same as an ordinary bell, and for this reason we do not advise their adoption.

I feel I have now said enough on these subjects to cause me to conclude rather than run the risk of tiring you with further statements. I would like to have touched upon such interesting matters as the mechanical clock of Strasburg Cathedral, and that mammoth bell at Moscow, weighing 220 tons, which has been the wonder of the age for two centuries. Time does not permit me, however, to refer to works which have not come under our own knowledge, and I have, therefore, only endeavoured to carry out what I foreshadowed at the beginning, namely, an application of the questions raised to the age in which we live.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE usual monthly meeting of this Society was held in their library at the Museum, Queen Street, Edinburgh, on Monday last, Professor Duns, D.D., in the chair. In the first paper Sir Arthur Mitchell described a curious old brass lamp which had been sent to him a year ago of a pattern which he had never before seen. It resembled a crusie, with eight lights in a row and a single under vessel to catch the droppings of oil, the whole being attached to a sconce to be hung against a wall. Since then he had seen several specimens, other three having come into his own possession and three more having been sent to him for examination. He soon heard that they were frequently to be seen in old curiosity shops on the Continent, where they were sold as lamps used by the Jews at the Feast of the Dedication, but they do not appear to be anywhere in use in Great Britain, unless, perhaps, to a small extent in London. The seven specimens which he exhibited were made, some of cast brass, others of sheet brass, and their decoration had no special character belonging to any particular period or country. But the Hannea lamp, as it was called, was sometimes made of silver and handsomely and tastefully decorated, some of those exhibited at the Jewish Exhibition in 1887 being of the sixteenth century, and one as old as the thirteenth century. The second paper, also by Sir Arthur Mitchell, was entitled "Remarks on Books of Travel in Scotland, with a List of such Books." These contemporary records of observations made by travellers yield a kind of material for the history of a country of which ordinary histories made very meagre use, notwithstanding its importance for the purposes of true history. Many historians seem to be deficient in the knowledge which such records ought to supply, and which they alone supply, and, unfortunately, also many travellers have failed to record what they ought to have seen and described in view of its ultimate value. Such records for the whole country and for the last three or four centuries made by observers of the stamp of Martin would have preserved material of the highest value for the history of the Scottish land and people, but the proper men had not arisen, and the opportunities have been lost Nevertheless, the body of narratives in the list which he had compiled, though many are written by poor observers and poor recorders, contains a large amount of material of definite value to science and history, and these considerations appeared to justify its preparation as a guide to the inquirer in search of this class of material. It included both manuscripts and printed books or parts of books and pamphlets, giving the titles in full, arranged in their chronological order, with notes which were in some cases bibliographical, while in others they directed attention to some essential or incidental specialty of the work. Besides the tourist who went about to see and record many things of general interest, there was the traveller with a special object, such as the man who travelled to see the charitable institutions of the country like Otto, or who was chiefly concerned with libraries and art like Spike and Dibdin, or who tells all about harbours and shipping like Tucker, or home industries like Loch, or the foreigner who makes a comparative survey of literature and science like Pichot and Simond. Many unexpected names occur in this list of travels in Scotland—Pope Pius II., Lord Brougham, Lord John Russell, the Right Hon. William Windham, Sir Walter Scott, Robert Burns, the poet Gray, the Ettrick Shepherd, Charles Dickens, Miss Edgeworth, Miss Wordsworth, Washington Irving and many others who have written short accounts of short journeys which are often full of interest. In one direction, however, from which much might have been expected, the results were disappointing. There were many distinguished foreigners who visited Scotland at an early date, men of culture and ready writers, who might have left us records of what they saw of the condition of the country, the manners, customs and beliefs of the people, and a score of other things illustrative of the Scottish life of the period in which they could scarcely fail to be interested. Among these were the men attached to the French Army of Occupation during the regency of Mary of Guise, and the men who accompanied Queen Mary, or who followed her when she came to Scotland. It is known that some of these persons travelled about the country, and all of them must have been well acquainted at least with Edinburgh and its neighbourhood. But they have left no records of what they saw, except in regard to the beauty and charms of Queen Mary—her feet and hands, her dancing, her verse-writing and other accomplishments. Another class of foreigners who visited England at an early date, like Erasmus and Poggio, were occasionally represented as having also visited Scotland, but there seemed to be no evidence of their ever having done so. Altogether the list of narratives or accounts of journeys in Scotland amounted to 800, of which 60 are before A D. 1600. In the next paper the Hon. John Abercromby gave an account of the discovery of a group of cinerary urns on the farm of Standing Stones, in the parish of New Deer, Aberdeenshire. The site of this small cremation cemetery is on the southern face of the Hill of Culsh, a little more than a quarter of a mile south-west of the farmhouses, which occupy the former site of a group of standing stones. As is usual with such groups of cremation burials, the site on which the urns were found was on a slight eminence or oblong ridge, and the urns were simply set in the ground inverted over the burnt bones of the interment, without any enclosing cist or covering cairn of stones. They were so near the surface that they had been all broken by the plough, but the fragments of three of the large urns had been put together, the most entire of the three being 10½ inches high and 10 inches in diameter at the mouth. It is of flower-pot shape, with a band of ornamentation of lines crossing each other obliquely under the rim, and two mouldings underneath the band, 2 inches apart. Altogether seven or eight places where urns had been situated were discovered by Mr. James Littlejohn, the farmer, and Mr. Alexander Gray, New Deer, who deserve much credit for the careful way in which they made the examination and preserved the pieces of the urns. In one of the urn sites, quite broken up by the plough, they found a very small urn, 3¼ inches in diameter and 2¼ inches high, of a type which is usually found inside a larger urn. It is very prettily shaped and ornamented, and has two small holes pierced through one side about an inch apart. With another urn there was found a piece of a small bronze blade, very thin and about an inch in width, and five small chips and flakes of flint. In conclusion, he endeavoured to determine the age of the urns by correlating them with other burials in other parts of Scotland belonging to the Bronze Age, and assigned them to a portion of that period which was of the early part of the time when bronze had come into use in this country. In the last paper Dr. Joseph Anderson described a remarkable hoard of bronze implements and ornaments, and buttons of jet or lignite found last summer at Migdale, on the estate of Skibo, Sutherland, and now exhibited to the Society by Mr. Andrew Carnegie of Skibo, F.S.A. Scot. The hoard was found after blasting the top of a knoll of granite, situated on the moor at the west end of Loch Migdale, and about a mile from Bonar Bridge. Near the knoll are two hut circles, and all around, but at greater distances, are the remains of many tumuli and cairns. The hoard consists of two flat axes of bronze, three pairs of plain solid arm-rings of bronze, a pair of flat arm-rings with moulded and chased ornamentation, part of an arm-ring of thin bronze with ornament in repoussé work on a chased ground, a necklace of forty or more cylindrical beads of thin bronze, each formed of a rectangular plate of very thin bronze, rolled round and covering a cylindrical core of wood, perforated lengthwise for the string. They are of several sizes, graduated apparently to suit their various positions in the necklace. There are also two ear pendants, made by beating the one end of a piece of bronze flat, and forming the other end into a pin-shaped termination, which was bent into a loop. There are four conical hollow bosses of thin bronze of different sizes, the largest scarcely more than 1 inch in diameter and ¼ inch in height, and provided with a couple of marginal pin holes opposite to each other, apparently with the purpose of fastening or sewing them on to something, probably as ornaments upon a belt or band. Six conical buttons of jet or lignite of the usual type, with the holes in the flat side meeting each other obliquely for the fastening, are also of different sizes, from about 1 inch to 1¾ inch in diameter. Among about a score of hoards of Bronze-Age implements recorded in Scotland, the majority belong rather to the late than to the early part of the bronze period. Only a few have occurred in which flat axes of the early type have been present, and of these few the Migdale hoard is by far the most important and interesting. It does not seem to be the hoard of a bronze-founder or travelling trader, but the personal hoard of an individual or family of some consequence and wealth.

The French Parliament has voted 35,000 francs towards a monument to be erected in Paris in memory of Alsace-Lorrainers who died for France in 1870-71 and in colonial expeditions.

NOTES AND COMMENTS.

It was a disappointment to the late M. Van Ysendyck when he found that his great work on art in the Low Countries from the tenth to the eighteenth century was not more generously appreciated in this country. Knowing the interest that was taken in Flemish buildings as sources of inspiration, he was justified in expecting that English architects would be glad to possess a work containing so many illustrations, not only of buildings, but of all forms of art associated with them. The barren distinction of being included among the honorary corresponding members of the Royal Institute of British Architects was no compensation to him, for not one copy of his work was purchased in consequence. M. Van Ysendyck was the son of a painter of Antwerp, but he was born in Paris in 1836, and he studied in the French Académie des Beaux-Arts. Long before he published his great work he was a recognised authority on Flemish architecture. He was therefore entrusted with the restoration of various ancient buildings. One of the latest was the fine old church of Notre-Dame au Sablon in Brussels. But he was fated to suffer much mental pain connected with it, for the modern vandals of the city took pleasure in defacing the delicate work which he had executed. His principal building was the Hôtel de Ville of Anderlecht, of which we have published an illustration, the architect appearing as one of the figures. M. Van Ysendyck, who has recently passed away, was an undoubted enthusiast, and he did more than any of his contemporaries to make the Flemish style known throughout the world. His name, we hope, will not soon be forgotten by his countrymen.

In an unpretending way the London Geological Field Class has been able to render useful service to science by demonstrating the interest in a geological sense of the country around London. Having so skilful and painstaking a guide as Professor H. G. Seeley, F.R.S., much of the ground which, to the uninitiated, seems to have no importance is found to be attractive, and as the field studies take place on Saturday afternoons they can be attended without much inconvenience. During fifteen years the excursions have been successful, and there is little doubt that those which will commence on the 27th inst. will be found to be equally profitable to the students who participate in them. The places visited will be both north and south of the Metropolis, in order that the geological features of the Thames basin can be revealed. The strata examined will comprise all members of the neocomian and cretaceous groups, the Lower London tertiaries, and the gravels and brick earth of the Thames valley. Opportunities will be given for collecting fossils from these strata, and from the upper oolites. Further information and particulars of membership may be obtained from the honorary general secretary, Mr. R. H. Bentley, 43 Gloucester Road, Brownswood Park, N.

One of the peculiarities of the sewage problem is that at times an exaggerated value is set upon the material, while at other times the question becomes, What are the most economical terms on which people can get rid of a nuisance? When Napier and Hope proposed to reclaim the Maplin Sands and Dengie Flats it was believed that London was particularly favoured by having large tracts which would become so fertile there would be few taxes to pay, for the income from the reclaimed lands would many times pay the expenses. But the projectors and their supporters were quickly disillusionised. The Metropolitan Board of Works and the County Council have not been sparing in expending money on experiments, but the products will not be accepted gratuitously either by agriculturists or by manufacturers of any kind. The Dublin Corporation, guided by the dearly-bought experience of London, propose to have special ships constructed in order to convey the sludge out to sea several miles from shore, and there to cast it into the water. Some experts believe that so simple a way of overcoming the difficulty is not only unscientific, but wasteful. A paper was read by Mr. M. F. Purcell at a meeting of the Institution of Civil Engineers of Ireland, in which he maintained that oil, and ammonia in the form of ammonia water, could be derived from sludge, leaving a solid residue which was well adapted to be converted into cement. In that way sludge would become a valuable material. So much ingenuity has been shown in devising mode of utilisation, the latest proposal may be looked upon as resembling many others which appeared feasible at first, and then turned out to be disappointing. But Sir Charles Cameron, the medical officer of health for Dublin, who has given attention to the subject, expressed the opinion that the process was so comparatively inexpensive it would be well to give it a trial, and see what were the products per ton that could be obtained, and whether it would be cheaper than the system of carrying the sludge out to sea.

The Edge Hills of Warwickshire are best known as being the place where the Royalists and Parliamentarians met in bloody but indecisive battle. The Rev. George Miller has shown in his "Rambles Round the Edge Hills" (Elliot Stock, London) that the contest is but one of many circumstances which give interest to that corner of Warwickshire. The most curious historical landmark of the neighbourhood is the Red Horse, a large figure cut out on the side of the Edge Hills, the adjective being derived from the redness of the soil. The author thinks it, as well as the White Horse in Berkshire, dates from the conquest of that part of England by the Anglo-Saxons; the period usually given, however, is the reign of Edward IV. There are several anecdotes and traditions to emphasise the personal elements of the book: they save it from being a bare framework of facts, which would be distasteful to the general reader. A peculiar Easter custom, known as Clipping the Churches, is recorded. The young generation of the parish made a circle by joining hands all round the church, afterwards walking in procession. The book rather errs on the side of brevity, especially with regard to the old churches. In the appendix there is a list of the monuments, painted glass and bells in the district. The last few pages are made up of a glossary of provincial words still in use, for "the language of our Saxon forefathers lingers on the slopes of the Edge Hills, so that many words and expressions which at first sight seem to be vulgarisms are really remnants of pure Saxon words." The book has reached a second edition, which is a guarantee of its worth.

The determination of the merit of the new houses in Paris, which are annually submitted in competition to municipal judges, is a slower operation than the selection of a design for an important public building. The decision has only been arrived at within the last few days respecting the houses which belong to the year 1899. It will be remembered that the competition is reduced to not more than six houses. Visitors to Paris during the holiday season may be glad to seek out those which are considered the most deserving of notice. They are as follows, the names of the architects being given in parentheses:—No. 17 Avenue de Breteuil (M. Marcel), No. 11 Rue Edmond-Valentin (M. Sinuel), No. 1 Rue le Peletier (M. Morin-Goustiaux), No. 45 Rue du Château d'Eau (M. Gustave Rives), 270 Boulevard Raspail (M. Bruneau), 8 Rue de Lota, Passy (M. Bouwens van der Boyen). The proprietors of the houses will be rewarded by an abatement of rates and taxes, but what is of more importance to them is the increased value which must follow from so marked a triumph of their property.

ILLUSTRATIONS.

COLLINGHAM GARDENS, S.W.

CATHEDRAL SERIES.—YORK MINSTER: DETAIL OF NAVE ARCHES. DETAIL OF ARCADING UNDER WEST WINDOW.

OLD HOUSES IN HOLYWELL STREET.

OLD HOUSES IN WYCH STREET.

SKETCH PLANS FOR HOUSE, MESSRS. LEVER BROTHERS, LTD., PORT SUNLIGHT.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening, the 29th ult., Mr. H. T. Hare, vice-president, in chair.

The following were elected as members :—Messrs. W. Boyd, E. R Sladen, H. Lawrence and H. Prince.

The gracious reply acknowledging the receipt of the letter of condolence on the death of Her late Majesty Queen Victoria was read.

The Chairman formally submitted the "House List" for the session 1901-02 as follows :—President, Mr. W. H. Seth-Smith; vice-presidents, Mr G B. Carvill and Mr. E. Guy Dawber; committee (ten to be elected), Messrs. H R. Appelbee, L. Ambler, C. H. F. Comyn, A. C. Dickie, A. Bolton, R. H. Weymouth, W. A Forsyth, F. D. Clapham, H T. Hare, W. H Raffles, Arnold Mitchell, W. A. Pite, G. H. Fellowes Prynne, A. H. Goslett, E Howley Sim, W. J Tapper, Hon. A. McGarel Hogg; hon treasurer, Mr. F. G. F. Hooper; hon. librarian, Mr. F J. Osborne Smith; assistant librarians, Messrs. H F Comyn and W. A. Jeckells; hon. secretaries, Messrs. R. S. Balfour and H P. G Maule; hon. auditors, Messrs. E. Greenop and G. M. Nicholson; hon. solicitor, Mr. W. H. Jamieson; secretary and registrar, Mr. D G. Driver.

Mr. H D. SEARLES-WOOD read the following paper on

Suburban Houses.

I have no idea how the committee intended this subject to be divided between Mr Appelbee and myself, but as I suppose the most useful purpose would be served by each of us speaking from his own experience the things that he has learnt, I propose to deal with houses of the rental value of from 80*l.* to 200*l.*, Mr. Appelbee having kindly undertaken to treat on houses of the terrace and small semi-detached types.

There is one catch phrase current which it seems impossible to keep out of any conversation at the present time, I mean the reference to the man in the street. Well, I take it that the majority of him live in either one or other of these various types of house.

One of the peculiarities of the suburban tenant is that he seems to wear the neighbourhood out in the first term of the tenancy, and it thus happens that the oldest inhabitant in most suburbs has been in occupation about seven years. Now, this being the case, it is obvious that in planning these houses they must be designed to suit the multitude, and not individual tastes

The man in the street is a man of social habits, with a fairly large circle of acquaintances. Let us take a typical family, consisting of the father and mother, with a grown-up family of four, two boys and two girls—the father and two boys playing golf and billiards, the mother and girls devoted to cards. Now, what should be the proportion of the various rooms to suit such a family, supposing we fix the rent at 200*l* and give an acre and a half of ground at 25*l* per acre per annum. This leaves in round figures 3,000*l* on a 5 per cent. basis as the cost of the house. The relative size of the several reception-rooms is the first consideration. The views of the man in the street and his wife are apt to differ in regard to which should be the larger, the drawing-room or the dining-room. I get over this difficulty sometimes by making the drawing-room, dining-room and billiard-room all the same size, and it makes a very satisfactory house, but I find it better to give the advantage to the drawing-room as being the room in which most of the social functions take place, and the general living-room. I know it is difficult to convince the mere man that this is the case. Pipes and the old clothes dear to the heart of every man lose some of their flavour or comfort in the surroundings of the drawing-room, and hence, as I say, the mere man is apt to rebel at the drawing-room being larger than the dining-room, but my experience is that in the inevitable compromise the drawing-room comes out the larger room In houses of this kind I find that the luxury of a large hall cannot be afforded: it is a beautiful feature in large houses, but where it can only be obtained by the sacrifice of size in the dining-room and drawing-room, I am convinced it does not pay (I generally lay a parquet floor in the drawing-room, though nowadays dances are generally given in the various public halls that are found in most suburban districts.) I had some few years ago to advise trustees as to advancing their money to build a small house for a young couple who were just married, who thought they would like a quaint little house built out of the wife's trust money. When the plans were submitted to me I reported that in the event of the house being to let considerable additions would have to be made. I remember one of the features was a large entrance hall, which was obtained by making the dining and drawing-room a combination—the drawing-room one end of the room and the dining-room the other end. In spite of my advice the house was built and occupied by the young couple for, I think, about two years, and they then took an ordinary house in the country, and the quaint conceit remaining empty for over a year, was then let to a tenant who insisted on the trustees adding another wing with a dining-room and some other accommodations that by no stretch of the imagination could be considered quaint. This incident has often occurred to me when I have seen similar designs in the professional papers, and I wonder what alterations will be made in the course of time, and such thoughts as these have a chastening influence whenever I feel disposed to attempt the unusual. I hope I shall not be misunderstood. I have a great admiration for the work of many of our talented architects whose houses will always interest, but small suburban houses must, to a certain extent, follow the more or less stereotyped plan which, after all, is the concentrated experience of many generations of builders.

I personally have a great objection to that form of hall which consists of a passage from the front to the back of the house It quite to my mind destroys the comfort of the hall, and in small houses I think what is called the garden entrance is unnecessary. I like also, if possible, to shut off the staircase from the hall.

The position of the billiard-room in relation to the house wants careful consideration. I always try and make a separate approach to the billiard-room from the outside. In the suburbs it is usual to have certain evenings in the week for billiards, when it is understood that your friends will drop in without a special invitation for a friendly game or to play in a handicap. If there is a separate entrance these visitors can come into the room without disturbing the other members of the family, and can leave without rousing the household if the billiard-room is kept open late. It always seems to me that a billiard-room in a small house such as we are now considering is an expensive feature if you look at it in the light of the largest reception-room in the house being devoted to a game which on the average is not played for more than four hours a week. To obviate this, I have found Burnett's patent machinery for lowering the table into a pit, and allowing a floor to be laid over the space, makes this room available for other purposes of entertainment. This machine consists of four screws which work in a steel frame, and are connected by means of bevel cogs so as to all work together, and thus prevent the travelling table jambing; the screws bring the table up to the steel bed-plate, and the table comes up each time to a dead level. When the table is lowered a beam of oak is laid across the opening, and the flooring, made in convenient widths, is laid down on the beam, and the ends caught by a hinged board secured with cups and screws which hold the false floor in its place. It takes about twenty minutes to get the table down and the false floor laid, and about thirty minutes to get the table back again and the false floor stowed away in the pit.

I find it suits the man in the street to give him a dining-room, drawing-room and billiard-room, the last taking the place of the small sitting-room, usually called the morning-room or library, on the ground floor. The billiard-room in this case has usually a writing-desk in it where the men of the family do what writing they have to do, and, in fact, use it as a general morning-room. This room should always be heated by hot-water pipes. Nothing is more miserable than to go into a cold billiard-room after dinner, and the open fire is apt to make one set of cushions softer than the others. If this plan is adopted the ladies want a room upstairs for work, and this can often conveniently be made in the attic, and when so placed piano or violin practice can be indulged in without stint for fear of the feelings of the rest of the household.

The relative position of the kitchen to the dining-room is another point which regulates the plan to a great extent so as to avoid as much as possible having to cross the house in serving the meals; but it is a moot point whether, in the sized dining-rooms that are usual in the class of house under consideration, two doors—one from the hall and one from the service passage—are not more conducive to draught than the convenience of the service warrants. But I am not in favour of hatches.

The dining-room should never be less than 15 feet wide for the convenience of serving round the table. A recessed fireplace on the side is also a pleasant feature, and gives interest to the room.

The kitchen should be so placed that the housemaid's pantry can be reached without passing through the kitchen. This pantry should be as large as possible, and all the glass and silver should be washed and cleaned in it.

The kitchen should also be a good size. It should be remembered that, in addition to the work of preparing the food, it is the living room of the servants. It is not usual in houses of this size to provide a servants' hall, and therefore the kitchen should be made larger to suit the double purpose. Good light on the right hand of the range is very important, and a cheerful outlook, if possible. In these houses I always make the boilers in the ranges of the kitchen and scullery both work the hot-water system, so that when in the summer the cooking is done on the smaller range there is still a circulation of hot water over the house. I find it a good plan also to have a copper cylinder on the floor on the first floor as well as the hot tank in the cistern-room. This cylinder heats the linen closet and gives a good storage of hot water.

If the family are given to taking cold baths in the morning there is a great run on the bathroom, and I find that a second bathroom is a good feature, if possible; but if not a spray bath on the head of the slipper bath enables the bath to be used much more quickly.

The staircase is one of the few opportunities in a house of this character that offer scope for a little careful detail. Of the three types of stairs—the open well, the dog leg and the stairs between walls—I fancy the last gives a little more mystery to the planning, the upper floor not being disclosed until the half-space is turned. A second staircase is a good feature if it can be arranged.

For the family we are planning for, eight bedrooms, a dressing-room and a workroom at least are needed.

As a comparison, taking the area of the rooms on the ground-floor as 100, the following is a good proportion:—

Billiard-room	24	Bedroom	12
Drawing ,,	19	,,	7
Dining ,,	15	,,	16
Hall	11	,,	15
Kitchen	9	,,	9
Scullery	5	,,	9
Staircase	4	,,	5
Housemaid's pantry, cupboards, water-closet and lobby	13	,,	9
	100		82

We have been considering a plan for a house of the rental value of 200*l*. Now let us see what reductions are required for one of 80*l*.

We will take the ground as a third of an acre. This would represent a plot 60 feet by 240 feet, and the ground rent would be 13*l*. 10*s*. This leaves, on a 5 per cent. basis, 1,300*l*. for the house.

I make the dining-room 16 feet by 16 feet, with a large bay, the drawing-room 16 feet by 15 feet, with folding doors into the hall, which is arranged so as to be used as a morning-room, or in conjunction with the drawing-room. The vestibule is approached through the housemaid's pantry, thus allowing the servant to answer the door without passing through the hall. The housemaid's pantry is arranged with a large gas-stove, so as to make it a summer kitchen. The kitchen is a fair size, with a scullery as a place for dish-washing only.

On the first floor are four bedrooms, corresponding in area to the four rooms on the ground floor, the bathroom and water-closet being over the vestibule. In the attic are two bedrooms, dressing-room, linen-closet and cistern-room. I think it is very important, from a sanitary point of view, to put the cistern in such a position that it can be readily and easily examined.

Making the same comparison as before, the areas are:—

Dining-room	30
Drawing-room	28
Hall	10
Staircase	6
Kitchen	13
Scullery	4
Housemaid's pantry	6
Lavatory	3
	100

This house, with reduced area, still gives good accommodation for reasonable social usages, and in both you will see the endeavour has been to work out the plans with the minimum amount of passage-ways. I think that this has been overdone myself, and both plans would be improved by more space in the staircases; but this would have been at the expense of the rooms.

In giving the percentage areas I have been endeavouring to arrive at the just proportion between the various rooms in houses such as we have under consideration. It appears to me that it would be a useful table if we could arrange some such scale. The problem appears to me to be as follows:—Given the rental value of the house and no conditions as to the size of particular rooms being imposed, what has been found to be the relative area of each room as the result of experience?

Of course, having fixed the areas for the ground floor, the other floors must follow more or less these dimensions. The comparison also depends on the houses compared being equally well built.

I have now described two plans at either end of my scale. The intermediate plans show a gradual increase in the scale of the accommodation, and you will find that as you rise from the lower to the higher rent the tenants become much more exigent. The question, I think, that would be most profitable to discuss is whether modern planning is abreast with the spirit of the age. Most buildings designed for particular purposes nowadays are highly specialised. Do our domestic buildings compare successfully with these specialised buildings in suiting the requirements of the persons occupying them, or are they governed by considerations other than the needs of the tenants, such as the reproduction of old buildings whose appropriateness to modern usage is rather open to question?

Mr. H. R. Appelbee read a second paper on the same subject:—

It is impossible in the time at my disposal to-night to do more than glance at a few of the points which influence the design of small suburban houses.

My illustrations are limited to houses of not more than ten rooms, and of these I have excluded the very smallest where it is probable no servant would be kept. Also excluded are houses having rooms for special purposes, such as doctors' and artists'.

The first point to influence the design is the site. It is obvious that all, especially in London, cannot have the advantages of building on gravel or high land, but the selection of a particular road is open to most. Personally, I would not care to own a house in a road running east and west, or, even worse, north-west to south-east, unless the site is large enough to permit side lighting as well as from front and rear.

Rooms should be so arranged that the sun may enter at least once every twenty-four hours.

This is not always possible; but to arrange living-rooms where it is impossible, even during long summer days, seems to me little short of criminal. Great care is, however, necessary, as different rooms require the sun at different times of the day, the general rule being that it follows with our day's work; our bedrooms should face the east or south-east, the breakfast-room south-east, the drawing-room south to south-west, the kitchen south-east, while a study or library north, with a sunny window as well, or east.

In a terrace-house the fronts should be south-east and north-west; in others where side light is also obtainable more latitude is permissible.

As to prospect, it is nearly always the same thing for the dweller near a large town—buildings everywhere. There should, however, be trees both in the road in front and in the garden, and creepers on the house itself.

The next point that will come under consideration is the cost, which will fix the size and number of the rooms and the amount that can be expended on their fittings and decoration.

The common system of making approximate estimates by cubing or areas is apt to be very misleading. For example, the areas of all, from the sitting-rooms to the pantries, may be increased by 50 per cent., while the cost is only increased about 20 per cent., assuming that the heights are kept the same and the fittings of the same quality.

To illustrate this take a terrace house 16 feet between the party walls and 25 feet from front to back:—

Area = 25 feet by 16 feet = 400 square feet.

Enlarge to 20 feet from party wall to party wall, and 30 feet from back to front:—

Area = 30 feet by 20 feet = 600 square feet.

Assume the heights to be the same, and compare the cost.

Party walls 50 feet and 60 feet long equals 20 per cent. increase, front and back walls 32 feet and 40 feet equals say 20 per cent increase (is really rather less). Skirtings and cornices will follow the walls. The finish to floors and ceilings and the roofing will obviously show a 50 per cent. increase. The joists of the upper floors will, however, show more, and more depth being required owing to increase of span, and will be found to require in the particular instance quoted an additional 20 per cent.

Many items require no increase whatever, *i.e.* range, copper, stoves and mantels. With the drainage and plumbing work, which is very expensive, the main items of manholes, vertical soil-pipes and service-pipes, bath and water-closet apparatus and sinks are not increased, and it is only the horizontal pipes between them, and these to the very small amount of 20 per cent.

For the purpose of this paper I have analysed the bill of quantities of a 1,450*l*. house, and I find on the above principles

About £240	with no increase	= £240
,, 930	,, 20 per cent. ,,	= 1,107
,, 280	,, 50 ,, ,,	= 420
	And for extra depth of floor-joists, say	13
£1,450		£1,780

or between 22 per cent. and 23 per cent. increase of cost for 50 per cent. additional accommodation. This point is somewhat emphasised because its not having been realised seems to result in cramped accommodation.

While on the subject of cost, a word of warning should be said on what is perhaps the greatest architectural sin of the Victorian age, viz. the façade built in a more expensive manner than the return faces. This arrangement gives a thin cardboard-like effect, and entirely destroys architectural solidity. It would be cheaper as well as more artistic to build the main front of similar materials to the sides and back. Perhaps a new reign and new century will alter this.

The first sketches should always show the principal furniture, and the relationship of doors, windows and fireplaces should be considered with regard to each other and to the furniture.

Inside v. *Outside Chimneys.*—If the fires are well grouped, two or, at the most, three chimney-stacks will be required. If they are on inside walls, the house is more economically warmed, and there is less chance of a down-draught from a cold flue. On the other hand, a compact plan usually brings the internal doors together around a small hall or landing, and in order to prevent the doors spoiling the sitting space around the fires or the plan from becoming straggling, the chimney breasts have usually to be planned in the outside walls.

The Casement v. *the Double-hung Sash.*—The double-hung sash is unquestionably convenient for lighting, ventilation, cleaning, and it is easy to keep clear of blinds or curtains; it is easily made weather-tight and is simple to fasten, but it probably requires more skill to make its appearance equal to that of a casement. The mullioned window, especially when long and low and without a transom, is undoubtedly picturesque. The casements are difficult to keep weather-tight unless they open outwards, in which case one at least of an odd number of lights can never be cleaned from the inside of the room, and they interfere with flowers on the window-sill. An even number of lights for cleaning purposes must have all to open in pairs. Opening inwards overcomes the cleaning, which is perhaps the greatest difficulty, but makes others with blinds, curtains or a window-seat, and the absence of the weather-tight qualities.

The dining-room in a house of this class is the most important room, and in planning this the furniture should be sketched in, and its dual use as a room for meals and the family sitting-room taken into consideration. A dining-table varies from 3 feet 6 inches to 4 feet 6 inches wide, and there should be room for one 6 feet to 7 feet long, and more at times, and a sideboard, one or two armchairs, often a couch or settee, and if there is no study the books of the house and a writing-table will be here also. The room, therefore, should not be too small (as it often is), and in this room in particular it is well to remember that doubling the area will not double the cost of the room. The best aspect for this room is south-east. Where this room is general living-room as well as dining-room a large bay or transept, making the room "L"-shaped, gives an interesting as well as convenient room. The bay is purely living room, the other end of the "L" having the dining-table, the remaining portion has the fireplace, and may be considered as belonging to each branch of the "L" in turn.

The drawing-room in small houses should be generally somewhat smaller than the dining-room, and is pleasant if it has the afternoon sun.

A third sitting room is a useful addition, and if on special occasions it can be thrown into connection with one of the others, so much the better. It serves as a breakfast-room the day the dining-room is "turned out" (in one house I know the hall serves this purpose well, callers being unlikely at so early an hour). Its chief use will vary very much in different houses, as breakfast-room, morning-room, library and den.

Bedrooms, &c.—Roughly one-third of our time is spent in bed and, therefore, the bedrooms of the house should have particular care in their planning. An adult should have from 1,200 to 2,500 cubic feet of air per hour, equal to a room nearly 20 feet by 13 feet by 9 feet; therefore the necessity for insuring the repeated change of air in a room is obvious. Not only an exit flue but an inlet is required. A deep bottom bead on a sash window enables air to enter at the meeting rail. I do not think the casement can be made to give this advantage. Sun also is very essential to keep the room sweet and healthy, and should enter early in the day. A bedroom hot in the evening from a setting sun is disliked by most people. If the room is near an internal angle of the building, see that the window is not commanded by one in the return wall. In planning the room, show the principal furniture, the bed, with the light, if possible, from the side and space for a wardrobe. The dressing-table should have the back of the mirror to the window, or between the windows if there are two; consideration should also be given to the morning opening of the window without having to move furniture first. In artificially lighting this room one light should be so arranged with regard to the dressing-table that the light falls on the dresser's face and not on the mirror. In a small room, if the bed occupies the position already suggested, this one light will probably serve the whole room. If electric, it is convenient to be able to switch it on and off from either the door or while lying in bed.

Bath, Lavatory and Water-closet.—In connection with the bedrooms the bathroom will be much used; in these small houses it assumes a much greater relative importance than in large houses. In addition to the bath there should be a fitted lavatory, both to have hot and cold water (this arrangement means a great saving of labour in the house by lessening the amount of hot and cold water carried to each bedroom and subsequent removal of slops). Some polished copper hot-water rails for airing towels are useful, and help to warm the room. The bath most commonly used has a roll-top edge and no casing; this seems to me a great mistake. As a rule, casings should be omitted whenever possible, that every part may be kept clean; but a bath is so big in bulk and has usually to be placed against the wall so that no one can possibly reach over to clean the vertical space between the side of the bath and the wall. The shallow space between the bottom of the bath and the floor is almost as bad. Splashing over of water, often soapy, is inevitable, and the dust clings.

As near as possible to the bathroom should be the upstairs water-closet, but never in it, although one sees illustrations of this. These two apartments seem to be the most difficult of all to arrange; they should be near the bedrooms, since the bathroom partially acts as a dressing-room, yet so retired that persons using the water-closet need not advertise their movements all over the rest of the house; and to this end do not permit any borrowed light from one or the other to a neighbouring passage, and be very careful in the selection of the water-closet apparatus and the water-waste preventer that they may be as silent as possible. Next, it is most important to remember that a water-closet is not merely an apartment 6 feet by 4 feet or thereabouts, which may be partitioned off anywhere. It must not be overlooked that it is often 30 feet high; in other words, the soil-pipe is an essential part of it, and if you place a water-closet on the principal front near or over the entrance door, this soil-pipe and the ventilation pipe which extends it will spoil the effect of everything. Bath and lavatory wastes are nearly as bad. Over the scullery or some of the adjacent pantry or kitchen parts is the natural place, but see that the water-closet is not over the larder—a point to which it always seems to gravitate. All places having water supplied to them should be as near to one another as possible for economy of pipe work and also because of accidental overflows; a long distance, too, from the kitchen boiler to the bath or lavatory generally means that the circulating pipes have to cross hall or sitting-room; and as few people care to see them exposed here, they get boxed up in floors and other improper and inaccessible places. To sum up this part, the bathroom and water-closet should be regarded as very large, their wastes extending down to the drains, their supply and ventilation pipes going up to the cistern and ridges of roof, and the bath has also a horizontal extension to the kitchen boiler.

The kitchen, offices and servants' quarters in small London houses are usually very cramped and deficient—at least, to those like myself who have had some country training first. The points about increase of size should be borne in mind here in particular. The kitchen is also the servants' living-room, and therefore should have as good an outlook as possible, and some sun, preferably in the early morning. Adjoining should be the scullery, primarily intended for the keeping and cleansing of the cooking utensils and the rougher part of the preparation of the food, but many other duties are now thrust on to it. It is the place where nearly all the dirty work of the house is done, such as cleaning boots and knives, trimming lamps, washing up greasy plates and dishes; it is also frequently fitted with a gas stove, and becomes the chief cooking place in hot weather.

It needs a copper for the rougher laundry work that is always done at home; it is also the storage place for brushes and brooms, and we are frequently asked to believe that a space about 6 feet square is all that is necessary. The larder must be placed so that it can be kept cool and away from the steam of the scullery copper. A lock-up store should be provided, where the lady of the house will keep extra groceries in reserve, and where best dinner and other services and glass are kept. An exceedingly useful addition, even in the smallest house, is a china or housemaid's pantry provided with a lead-lined sink. Here tea and breakfast services are washed and stored, also plate and glass. Table linen is also kept here. By attending to the lighter work here the mistress and the young ladies of the house can assist without interfering with the servants. If planned as an ante-room between the kitchen and main house, it will also act as a ventilated disconnecting lobby, and help to prevent an unavoidable cookery smell extending all over the house.

The Stairs may be made the most picturesque part of the house, but they must be practical also; they will have to be used by the very young and the infirm. Winders are often dangerous, and should never be curved on plan (as they often are at the foot of the stairs) if it is intended to carpet them. Bulky furniture will also have to go up and down and at times a coffin.

The Plan.—The width of the site is the next point that will determine the plan. Narrow sites must make the house one of a row; at 25 feet it is possible to make it "semi-detached"; 40 feet to 50 feet is the least on which the smallest detached house will look well.

The varieties of plan possible are, I think, more than is commonly supposed. In a terrace-house the simplest is to put two rooms on a floor facing the front and back of the site respectively, a part of one being cut off for the staircase, or the staircase may be put in between them. In these cases the kitchen and offices occupy a basement storey, two sitting-rooms on the ground floor, with probably two floors of sleeping-rooms over. Constructively cheap, owing to small amount of foundation and roofing (which the increased thickness of walls will not outweigh), they are very inconvenient, owing to the amount of stairs. There is, of course, three times as much staircase in a four-storey house as in one of two storeys. The first variation is to bring the kitchen to the ground floor in a wing behind the stairs, with the result that the look-out from one sitting-room is quite spoiled, the scullery or coals enjoying the view. Another arrangement transposes sitting-room and kitchen department, opening the kitchen from the centre of the house. In both these types the getting in and out of coals and dust is a great difficulty unless there is a back way. In the Midlands it is a common practice in small houses of this kind to make a passage at the side common to two houses for this purpose, and as a tradesmen's entrance.

Larger terrace-houses are obtained by placing the drawing-room or a study upstairs and an additional floor of bedrooms. If this is done great care must be taken with the approach. Most of us can probably call to mind examples where the stair is too narrow, and the bath and water-closet department too conspicuous *en route*. All terrace-houses are open to many objections—the difficulty of getting sunshine to all rooms has been mentioned, and the difficulty with coals and dust where there is no basement. To these must be added that the drains, with rare exception, must pass under the building, and the transmission of sound from one house to another is very considerable. Piano-playing, singing, the running of children up and downstairs and even conversation may be heard. As generally planned, the sitting-rooms of different houses have only a thin wall between them, and the front doors of two houses adjoin. The passage of sound can be lessened where the rooms have the staircase between, but the cost is greater, there being more brickwork, and the light and air to the centre part of the house is much damaged. In the London district there is also the æsthetic objection that the party-walls must show above the roofs, and they are very difficult to treat in a satisfactory way. In many of the London districts external walls within 10 feet of another house have also to have parapets above the roof. These points much affect the design. For example, a series of gables with their ridges over the centre of each house, and parallel to the party-walls, would work out in a most distressing and expensive manner. Wide-fronted terrace-houses, *i.e.* those having two rooms on the front, have not been mentioned, as except on plots very shallow from road to back, or with a sharp fall to or from the road where the long type is not easily fitted, they are not much in request. The chief advantage of dwelling in a suburb as against living more in town in a flat or house of equal value lies in having a garden or open space around the dwelling; and the desirability of this and of access to it for a wheelbarrow, &c., make the detached or partially detached house a necessity, and these latter, moreover, get us over many of our previous difficulties.

On narrow plots the semi-detached house is very like the terrace-house already described. The front doors can, however, be put at the side away from the party-wall and thus secure greater privacy, but this generally requires a wider plot. These pairs of symmetrically planned houses seem to me to be among the most unsatisfactory designs ever produced. A symmetrical elevation to the road has a great pier instead of opening as the central feature, and this is usually capped by the end of the parapet of the party-wall, which goes up by all sorts of irregular turns so much higher than all the roofs, turrets, dormers, &c., within 4 feet or so of it. Sooner or later the houses drift into different ownership, and one paints his woodwork white and the other black, and the disaster is complete. The remedy is simple: do not plan a symmetrical pair.

Larger detached and semi-detached houses are so varied in plan they are difficult to classify; a few actual examples were therefore given, with some slight comment on each.

Terrace-house, 20 feet frontage.

Ground falls sharply to rear of plot.

Drawing-room placed at back on first floor, and only ten steps above dining-room at entrance level.

Kitchens are thus half-basement so far as levels are concerned, but are themselves entirely above ground. Kitchen gets a good look-out.

The arrangement of bathroom in front of house on first floor suggests difficulties with the hot-water service from the kitchen boiler unless the pipes are boldly exposed to view in the entrance hall.

Semi-detached.

Simple, open and picturesque arrangement, perhaps more in character with the suburb of a small town than near London.

Frontage, 40 feet.

Is an attempt to get rid of the usual run of houses in this locality with the door in the middle and a room on either side. Here we have a hall 8 feet wide, sitting-rooms to the south-east and both to the front as being the most interesting outlook.

Kitchen department well cut off.

Kitchen fair size.

Two good pantries (food and crockery).

Large scullery cross ventilated, with sink, copper and gas-cooker.

Three bedrooms over sitting-room and kitchen.

Servants' bedroom over pantry portion.

Bath and water-closet over scullery.

Two large store cupboards for linen, &c.

The hot water for bath and lavatory is required long distance from boiler.

Can be placed side by side and treated as semi-detached.

Frontage of house 33 feet.

Plot not less than 40 feet to 45 feet.

A most ingenious arrangement, which I do not remember to have seen elsewhere, is that of the back wing

Scullery, larder, coals, &c., are less in height than the principal rooms, and a sort of mezzanine over them is approached from the half-landing up-staircase.

The mezzanine contains bathroom, water-closet and a good sized linen-room; these in turn are kept very low, and the servants' bedroom is placed over.

This part of the house is, therefore, three floors high against two elsewhere, but the top floor of the wing is only some six steps above the general first floor.

This placing of the servants' bedroom would, I think, be generally appreciated by both servant and mistress.

Detached house for corner site.

Frontage of house 32 feet.

House is entered through a large sitting-room hall.

An exceptional appearance is given by placing the main cornice of wood at the level of the first floor window-cills, and above this a Mansard roof, the upper storey being thus half in the roof. As the lower slope of the roof commences near the outside edge of the cornice (top member of which is the rain-water gutter), it is possible to obtain inside a height of 6 feet before any slope begins, and even then it is 75 degs., the steeper pitch of the Mansard and brickwork being filled in between the rafters. All the external walls are as solid as usual, 6 feet from the floor.

Frontage of plot 70 feet to 80 feet.

Road end of site faces north.

Charming view looking away from road.

Therefore rooms look down garden.

Sketch was made because client held that a house on that site must have sitting-rooms looking north or the outbuildings would be next to the front door.

Corner site.

Principal front of about 70 feet had excellent view across the Avon

Principal sitting-rooms both face this way, and the entrance was from the side road.

House limited to two floors; five bedrooms and dressing-room required.

Sash windows throughout insisted on.

Attempt made to keep all the water services together, and to so arrange the bath wastes and soil-pipes that they do not disfigure the principal fronts.

Detached on a plot not less than 100 feet wide.

Extreme overall of house 61 feet.

Large square hall on the north-west or entrance side.

Two large sitting-rooms, with removable partition, facing south-east, and looking down garden.

Three bedrooms over the last two.

Piers so arranged that the upper dividing partitions do not throw all their weight on thin dividing walls. The spaces between these piers have beams or arches over, producing the effect of recesses in a very thick wall rather than piers added on to a very thin wall.

A room upstairs was intended as a study.

This house, though much larger than most illustrated in this paper, has only two chimney-stacks.

Sanitary arrangement not compact.

A smaller scheme substituted for No. 18, and sanitary arrangement made very compact.

Two high-class houses for a large estate.

Kitchen offices seem very small.

Plumbing and water arrangement exceptionally compact.

Mr. S. F. Clarkson proposed a vote of thanks to the authors of the papers, but said he disagreed with Mr. Searles-Wood's principle of proportion, and he thought it would be impossible to apply it to houses generally.

Mr. H. Lovegrove seconded the vote, which was passed by acclamation.

NATIONAL MEMORIAL TO QUEEN VICTORIA.

THE executive committee appointed, with the approval of the King, by the general committee met at St. James's Palace on the 4th inst. There were present Viscount Esher, Lord Windsor, Sir Edward Poynter (president of the Royal Academy), Mr. A. B. Freeman Mitford, Mr. W. Emerson (president of the Institute of British Architects), and Mr. Sidney Colvin.

It was decided to ask Mr. Thomas Brock, R.A., to prepare a design for the group or groups of sculpture, including a statue of the Queen, which will be placed opposite the entrance gates to Buckingham Palace

It was further decided to invite Sir Thomas Drew, president of the Royal Hibernian Academy, Mr. T. G. Jackson, R A, Mr. Aston Webb, A.R.A., Mr Ernest George and Dr. Rowand Anderson, R S.A. (Scotland) to prepare designs for the treatment of the western end of the Mall where the group or groups are to be placed, and for a general scheme, should funds allow, to include an architectural entrance at the Spring Gardens end of the Mall, as well as an architectonic rearrangement of the Mall with groups of sculpture at intervals, the whole forming a processional road

The plans are to be submitted in the course of the next three months.

The Lord Mayor has received the following letter from Viscount Esher, the hon. secretary of the executive committee :—

H.M. Office of Works, Storey's Gate, April 4, 1901.

My dear Lord Mayor,—

The executive committee have requested Mr. Thomas Brock, R.A, to prepare a design for the group or groups of statuary which are to form, as you are aware, the memorial to the Queen and are to be placed in front of Buckingham Palace.

The rest of the scheme, involving a rearrangement of the ground in front of the Palace and possibly—should funds allow—a rearrangement of the Mall, with an architectural entrance at the eastern end, has been explained to the five distinguished architects selected by the committee, guided by the advice of the President of the Royal Academy and the President of the Institute of British Architects.

Very wide discretion has been given to them in the preparation of their designs, and it is not beyond reasonable expectation that Mr. Brock, in collaboration with the architect ultimately selected, may produce a memorial worthy of Queen Victoria and of the capital of the Empire. A generous response has already been made in many quarters to your appeal, but a very large sum, amounting to not less than 250,000*l*., will be required to carry out the scheme as conceived, and I am confident that the King's desire is that the memorial shall be national in the fullest acceptance of the term, and for this reason the general committee would specially welcome small subscriptions from every class of the community.

It has occurred to me that a special appeal might be made throughout the land on May 24, Queen Victoria's birthday—a day which for over half a century has been specially associated with her name.

If the clergy of all denominations would assist, many of limited means who, I am confident, would desire to contribute an amount—however small—towards this memorial of the Queen would be enabled to do so, and if you will allow me to make a suggestion it would be that you should make a special appeal for this purpose.—Yours sincerely,

ESHER, Hon. Secretary.

The Right Hon. the Lord Mayor.

ARCHITECTURE AT A GERMAN TECHNISCHE HOCHSCHULE.*

THE literal translation of Technische Hochschule is technical high school. But it is not what is meant by a high school in this country. It corresponds very nearly to the schools of science attached to our universities, though the Technische Hochschule is a separate institution, complete in itself, and not connected with any other body. It is a sort of university of pure and applied science.

The regular German universities have always looked down upon the Hochschulen for three reasons :—First, because they consider the technical subjects taught there to be less important than those on which their own professors lecture, and, secondly, because the standard of admission is in some cases lower than their own. But all students at the Hochschule who wish to pass the Government examinations and get their degree or a title from the Government have to pass exactly the same entrance examinations as those who wish to study at a university. The third reason is, that the universities could grant the degree of doctor, but the Hochschulen could not. But since October 1899, by a decree of the Emperor, the Hochschulen have the power to grant this title. He takes a deep interest in the progress of science and of technical industries, and the differences between the universities and the Hochschulen are gradually being done away with.

The Technische Hochschule at Hanover, where I studied architecture for two years, is a royal institution, being supported by the Government, such a thing as a university supported by the donations of wealthy citizens not being known. But the German newspapers are now appealing to the rich men to follow the example of their American brethren, and let some of their wealth flow into the treasuries of the universities and Hochschulen.

The usual requirement for admission is a certificate showing that the student has completed his course at a gymnasium and has passed the graduating examination. This admits the holder to any university in Germany. At a number of the Hochschulen a certificate showing a promotion to Unterprima—the highest class but one in a gymnasium—is accepted as evidence of sufficient knowledge to be able to study intelligently at a Hochschule. It is this form of admission that has given the universities a reason for looking down on the Hochschulen. But it has been done away with at some of them, and probably will be abolished in them all before long. Foreigners are admitted if they can show that they have pursued a course of study in their own country approximately equivalent to that of a gymnasium, but they are not allowed to take the Government examinations.

Any one who wishes to take up some course or separate subject at the Hochscule, but is not able to fulfil the requirements for admission as a student, may be admitted as a "hospitant," or guest, simply attending the lectures, but not receiving any diploma at the end of his course.

For those who intend to try for the examinations a regular programme is mapped out which they are advised to follow. This is, however, entirely optional. The only thing that is required is to register in at least three subjects. Having decided what course to follow, the student fills out a blank with the subjects he wishes to take, and hands this in to the bursar, who writes down after each subject its cost, the fees being proportional to the number of hours taken. During the winter term a weekly lecture-hour costs four marks, equal to a dollar. A lecture of five hours a week would accordingly cost five dollars for the term. In the same way, a weekly hour of laboratory or draughting work costs three marks, or 75 cents. For the summer term, which is shorter, these figures are reduced to three and two marks respectively On the whole, this is much cheaper than the tuition at our American universities, as the most I paid was about 160 marks, or 40 dollars, for a winter term of forty-six hours a week. Some subjects, such as modelling, drawing from life and surveying, where there is an extra expense either for models or materials, cost somewhat more ; but, on the whole, the charges for tuition are exceedingly moderate. The German Government pays all expenses that are not covered by the tuition fees.

After one has paid his fees and got back his list receipted, he takes it around and has it signed by each of the instructors whose lectures he is going to attend (or not attend as the case may be), and then all that he has to do for the rest of the term is to take good care not to lose this list, for at the end of the term it has to be countersigned by the same instructors, and then handed in.

The course occupies four years, and leads, for those who wish to enter the Government service, to the title of Bauführer, or director of building, and since October 1899 also to the degree of doctor of engineering. Those who do not enter the service of the Government but have successfully completed their four years' course receive a diploma to that effect. During the years that I studied there the Hochschule in Hanover was attended by about 1,200 students, of whom between 170 and 180 were studying architecture.

The first two years are devoted almost entirely to theoretical subjects, or, at any rate, to subjects which do not pertain directly to architecture, but which it is well for an architect to know something about.

The subjects taught during each term, or Semester, are as follows :—

First term of first year (from the middle of October to the middle of April) :—

Differential and Integral Calculus.—Five hours' lecture, one hour's recitation.

Analytical Geometry.—Three hours' lecture.

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* From a communication to *The American Architect* by Mr. H. M. Baer.

Descriptive Geometry.—Three hours' lecture, six hours' drawing.

Mechanics.—Three and a half hours' lecture, half-hour's recitation

Construction (Masonry and Carpentry).—Three hours' lecture, four hours' drawing.

Architectural Drawing.—Five hours. Instruction here consists of copying architectural subjects in different mediums—pencil, charcoal, pen and brush, so as to become familiar with the handling of different materials.

Elements of Mineralogy.—Two hours' lecture, one hour's recitation.

Experimental Physics.—Mechanics, heat, acoustics and optics. Four hours' lecture.

The summer term is shorter than the first, lasting from the middle of April to the end of July. During this time, in the first year, the following curriculum is prescribed:—

Differential and Integral Calculus.—Three hours' lecture, one hour's recitation.

Descriptive Geometry.—Three hours' lecture, six hours' drawing.

Mechanics.—Seven hours' lecture, one hour's recitation.

Construction.—Foundations: walls and supports of wood, stone and iron; stairs and elevators of stone, wood and iron. Two hours' lecture, four hours' drawing.

Architectural Drawing.—Six hours. Devoted to the same subjects as during the winter term.

Elements of Geology.—Four hours' lecture.

Elements of Chemistry.—Six hours' lecture.

There is no summer work prescribed, and, therefore, none done. The draughting-rooms are left open for the convenience of the students who have back work to make up. There are usually plenty of them.

During the Easter and Whitsuntide vacations, excursions headed by some of the professors are undertaken, places of special architectural interest being selected. In 1898 the South German towns such as Heidelberg, Cologne, Aschaffenburg and Munich were visited. The next year the trip was through Holland and Belgium, and last year, a friend writes me, they went to Paris to visit the Exposition. These expeditions usually last about ten days. During that time the customary good feeling between the instructors and the students grows even more cordial. The companionship that an outing of this character necessarily entails, with its frequent opportunities for friendly and confidential conversations over the social pipe or in the station restaurants along the route, are considered, by the students at least, to equal in value the more theoretical and formal tuition of the lecture-room. In fact, coming into closer contact with these highly intellectual and, for the most part, exceedingly interesting men, is a liberal education in itself. Then there is no other way so easy and at the same time so effective of learning what should and what should not be done in architecture as having this pointed out to you on existing examples. This is duly recognised by the Hochschule, which helps these excursions along materially by paying all the travelling expenses of the instructors, and at times even paying the railroad fare for the students.

It would be of advantage to the students of architecture in this country if such excursions were undertaken here. Of course in Europe there is very much more of architectural and historic interest, and, as a rule, one does not have to travel very far to reach it. But a trip to Albany, Boston or Washington, conducted in a similar way, would greatly benefit those taking part in it.

The pleasant summer vacation is over, and once more the student returns to his work, refreshed and invigorated by his rest. He needs all his strength for the hard winter's work of fifty-one hours a week. Twenty-six of these hours are devoted to lectures, the other twenty-five to recitations and drawing. During this year he gets to know a little more about architecture itself, but most of the subjects are still very theoretical and rather auxiliaries of architecture than architecture itself.

Here is the list of subjects taught in the second year:—

Mechanics of Elasticity.—Five hours' lecture, one hour's recitation.

Graphical Statics.—One hour's lecture.

Study of the Forms and History of Ancient Architecture—Three hours' lecture, six hours' drawing. This course also includes a careful and detailed study of the orders, the copying of the best examples of ancient architecture and one large and carefully executed design in either the Greek or Roman style.

Ancient Ornament.—Two hours' lecture, two hours' drawing.

History of Ancient Art.—Three hours' lecture.

Construction.—Three hours' lecture, four hours' drawing.

Architectural Building.—One hour's lecture.

Modelling—Four hours.

Figure Drawing from Casts.—Six hours.

Elements of Civil Engineering.—Three hours' lecture.

Elements of Surveying.—Two hours' lecture.

Technology of Building.—Three hours' lecture. By this is meant instruction in the manufacture of bricks, plate-glass, mining, casting of metals, and so on, the lecture being illustrated by the inspection of factories and plants in operation.

The summer term has 49 hours a week, of which 25 are taken up by lectures and 24 by exercises. The subjects are almost identical with those of the winter session. The lectures on the "History of Ancient Architecture" are replaced by others on "Romanesque Architecture." Likewise those on "Ancient Art" by others on the "Art of the Middle Ages." However, the drawing and designing of the course in ancient architecture is kept up.

With the third year the real architectural work begins. All the preparatory work is accomplished, and now the students are first acquainted with the various styles of architecture and with the principles of design. But even here, where the course tends toward a greater similarity with the course at Columbia, the general principle is still quite different. For, whereas at Columbia a large number of problems of a practical character, carried only so far as a few weeks' work will permit, is deemed the most beneficial, in Germany a few large problems are very carefully worked out, with a couple of smaller ones interspersed. The styles in which these designs are to be carried out is usually prescribed, the idea being to make the student thoroughly familiar with the forms and ornaments of all the historic styles. Having thus become conversant with the historical development of each style, and having tested its applicability to practical design, he may then accept, modify, or ignore them in his later work as he may see fit.

This system of studying each style separately from the design point of view is carried so far in Germany that for their Gothic and Romanesque years many students will visit a Hochschule where some professor who has made these styles his specialty has charge of the course, and for their Renaissance year will go to some other Hochschule, where a master of that style holds his lectures.

The programme for the winter of the third year is as follows:—

Planning of Dwellings and Public Buildings.—Two hours' lecture.

History of Renaissance Architecture.—Two hours' lecture.

Designing and Detailing of Dwellings—One hour's lecture, five hours' drawing. Besides instruction in the designing of dwellings this course includes the making of working-drawings and full-sized details.

Mediæval Ornament.—Two hours' lecture, two hours' drawing.

Designing in the Early Christian and Romanesque Styles.—Three hours' drawing. This includes sketching and careful working out of a problem from a given programme, also the making of perspectives from drawings and also from nature.

History of Gothic Architecture.—Three hours' lecture.

History of Renaissance and Modern Art.—Three hours' lecture.

Arrangement and Planning of Buildings.—Two hours' lecture, three hours' drawing. This course considers the treatment of buildings of every class.

Landscape-drawing and Water-colouring.—Two hours' drawing.

Life Class.—Six hours' drawing.

The only difference between the winter and summer terms is that during the winter the course of lectures on machinery takes the place of the two hours a week devoted to landscape-drawing and water-colouring.

Of the thirty-five hours a week of the fourth year's winter term, twenty-four are devoted to design, so that the absence of design from the first two years of the course is made good to a certain extent in the last year. During this last year the following subjects are taken up:—

Renaissance Design—Six hours' drawing.

Monumental Buildings and Laying-out of Cities.—One hour's lecture, four hours' drawing. In connection with this course a series of five-hour sketch-problems is given out, subjected later to a comparative criticism.

History of the Useful and Decorative Arts.—Two hours' lecture.

Interiors with Coloured Decorations.—Five hours' drawing.

Designing of Public Buildings in the Styles of the Middle Ages.—Two hours' lecture, nine hours' drawing.

Lighting, Heating and Ventilation.—Three hours' lecture.

Elements of Engine-building.—Three hours' lecture.

The student who has successfully completed this course is deemed ripe to begin his existence as an architect. To those who have passed the Government examinations position and a future is assured. This brings one to the subject of examinations.

At the end of every term each student may take an examination in any subject in which he has registered. This is, however, entirely optional on the part of the students, and, as a rule, but few avail themselves of this privilege For the students of architecture are no more prone than others to go to the trouble of preparing for an examination which is not obligatory and is not required for graduation. The real object of these examinations is to give those students who, for some reason, do not intend to take the regular prescribed examinations, a chance to find out how much or how little they have learned during the term. When a student who has passed all or any of these Schlussprüfungen (end-of-the-term examinations) leaves the Hochschule he receives a certificate showing the result of these examinations and giving tangible evidence of the work he has done while there.

The German students have a very strange but effective method of showing their disapproval of the disturbance caused by that most annoying of mortals, the person who always comes in late. This the students accomplish by shuffling with their feet whenever anyone enters after the lecture has begun. It is anything but pleasant to have anywhere from ten to two hundred people all glaring at you and giving voice (if one may use this expression) to their resentment in this way. The person to whom this happens is very apt to take his seat as quickly and as quietly as possible and to be careful to be in time at the next lecture.

There are two distinct types of examinations. One is the Staatsprüfung, or Government examination, the other the Diplomprüfung, or diploma examination. The subjects required are the same in both cases. The only difference between the two, as far as the examination itself is concerned, is that the one is held by an examination board appointed directly by the German Government, whereas the other is conducted by officers of the school. Whoever successfully passes the Government examination receives the title of Regierungsbauführer, or Government director of building, and can enter the Government service if he so wishes. As we have already seen, only those who have completed a nine years' course at a German gymnasium are entitled to take this examination. Naturally, all students who have fulfilled these requirements take the Government examination in preference to the other, if only for the sake of the title, even though they do not intend to enter the Government service. There are many of this class. For, although the Government service offers a sure berth and a regular salary, and also a pension after retirement, the conditions are so unfavourable that but few are willing to undertake it. The young Bauführer has to give the first year or year and a half of his services to the Government without receiving any remuneration whatsoever. Before becoming a Baumeister, the next rung of the Government ladder, an exceedingly difficult examination, requiring a full year of preparation, must be passed. The Baumeister receives a fairly good salary, and most who have reached this stage stick there till they are middle-aged men, when, if they are fortunate, they may be appointed Baurath. In spite of the fact that these unfavourable conditions have led to a great scarcity of Government architects, the German Government has till now refused to improve them, but will surely be forced to do so. Under existing circumstances, only those men who have not enough confidence in their own ability to hope for success in their battle with the world are apt to enter the Government service. This naturally leads to a deterioration of the work done for the Government, and a change is sure to be made, and made soon.

The student who passes the other examination receives a diploma from the Hochschule to that effect. The purpose of these diplomas is to give the students who cannot take the Government examination an opportunity of proving that they have successfully completed the entire course in their special subject. As the same subjects are required for the Government and diploma examinations, it will only be necessary to describe one of them—the diploma examination.

The examination is divided into two parts—the Vorprüfung, or preliminary examination, and the Nachprüfung, or final examination.

The preliminary examination is taken at the end of the first two years, and covers all the subjects taught during that time. It is usually held in the autumn, in order to give the students ample time to prepare for it during the summer months. This preparation is needed by all, even those who have attended all lectures regularly, for it is no slight matter to have all the subjects of this first half of the course at one's fingers' ends. It requires a great deal of earnest study to be well prepared, especially as the examination lasts only two days, with no time in between wherein to study up. There is usually a large number of students who have not attended lectures regularly, for wherever there is great freedom there is likely to be some abuse of it. For these students the three months allowed for preparation are a real godsend. I have known students who have scarcely seen the inside of a lecture-room during the two years to squeeze through an examination by cramming and working like slaves during these months.

Before being admitted to the examination the student has to hand in all the drawings he has done during the two years. These are passed upon by the examination board, and if they are found satisfactory he is allowed to take part in the examination.

Drawings covering the following subjects are required:—(1) Descriptive geometry. (2) Graphical statics. (3) Construction. (4) Agricultural building. (5) Architectural, landscape and figure drawing. (6) Forms of Greek and Roman architecture. (7) Surveying.

The following are the subjects required for the preliminary examination. Where several subjects are brought under one head, it means that the examination in them is held at the same time by a single professor:—(1) Elements of physics. (2) Elements of chemistry, mineralogy and geology. (3) Pure mathematics:—(*a*) Trigonometry, plane and solid analytical geometry; (*b*) differential and integral calculus. (4) Descriptive geometry. (5) Mechanics, mechanics of elasticity, hydraulics and graphical statics. (6) Surveying. (7) Construction and building materials. (8) Agricultural building. (9) History of Greek and Roman architecture. (10) Technology of building.

For the final examination this is the list of drawings required, and following it the examination subjects:—

Drawings.—(1) Early Christian and Romanesque design. (2) Gothic design. (3) Renaissance design. (4) Ornament. (5) Water-colouring. (6) Interiors with coloured decoration. (7) Designs and details of dwellings. (8) Designs of public buildings. (9) Monumental buildings.

Examination Subjects.—(1) Statical calculation of constructions. (2) Elements of engine-building. (3) Forms of early Christian and Romanesque architecture. (4) Forms of Gothic architecture. (5) Forms of Renaissance architecture. (6) Arrangement and planning of buildings. (7) Estimates and specifications.

A thesis design, for which two months are allowed, is required. Admission to the final examination depends upon the acceptance or rejection of this design.

Most of these examinations are oral. In the mathematical subjects they are partly written, partly oral. Naturally, drawing plays a large part in them. The examination in each subject lasts either an hour or an hour and a half, and usually three students are examined at a time. It is wonderful how much knowledge or ignorance can be brought to light under the hands of a skilful examiner during the twenty or thirty minutes of questioning which falls to the lot of each student at every examination.

There exists a very strange custom at these examinations; every student wears his full-dress suit and white gloves. (Of course the white gloves are removed when it comes to writing.) It is very odd to see young men in formal evening dress in the middle of the day. The purpose of this singular custom is probably to remind the students that this is a very serious and important event in their lives, but it is an exceedingly uncomfortable thing to take a difficult examination dressed in this way.

Looking back at the work here recorded it is quite apparent that the course in architecture at a German Hochschule is a very thorough one. Any one who has gone through this course carefully, and has worked for himself as well as for the examinations, has laid by a store of knowledge which is sure to be of the greatest service to him during his professional career.

The one fault to be found with the course is that it is somewhat too theoretical. Granted that the real purpose of a university course in architecture is to teach the theoretical subjects, nevertheless they can be taught in a more practical way. A brief comparison of the Hanover course with the course at Columbia will show this.

In Hanover the lectures on calculus, descriptive geometry and mechanics are attended by students of civil, mechanical and electrical engineering, as well as by the architects. The natural result is that the students of architecture get more of these subjects than they really require. At Columbia lectures on these subjects are especially adapted to the needs of architecture and only attended by architectural students. The advantage of this system is evident. Being a much shorter course it leaves more time for other subjects, among them design. This brings up another point already touched upon.

At Hanover the instruction in design does not really begin until the third year is reached. At Columbia the student has problems in design to solve (naturally of the simplest kind at first) from the beginning. During the second year two and a half hours of every afternoon are devoted to design, and in the fourth year it takes up almost all of his time. Say what one will, design is the thing above all others that an architect wants to understand.

In the Hochschule course lectures on the requirement or buildings of every description are held. These lectures are wanting at Columbia, but are made up for to a large extent by the course in design, during which problems varied in subject, and for the most part practical, are thoroughly discussed and their special requirements duly pointed out. In the Hanover course the carrying out of a very extensive problem in each of the styles leaves but little time for smaller and more practical problems. For this reason the graduate from Columbia is better prepared to grapple with the practical problems of his profession than his colleague from across the sea.

It would be unjust to say that such subjects as physics, chemistry, mineralogy, geology, surveying and a number of others which form part of the Hanover course, but are lacking in that at Columbia, are not decidedly beneficial. On the contrary, it would be splendid if we could have them here also.

The pith of the whole matter is simply this:—A four years' course in architecture can never be completely satisfactory, whether it be on this or the other side of the ocean. Four years is too short a time to thoroughly master architecture, one of the most difficult of all the professions. The German as well as the American students feel this to be true, and therefore all who can possibly do so journey to Paris to complete their studies at that Mecca of all students of architecture—the Ecole des Beaux-Arts.

EDINBURGH ARCHITECTURAL ASSOCIATION.

ABOUT eighteen of the members of the Edinburgh Architectural Association journeyed to Clackmannanshire on Saturday afternoon for the purpose of visiting the Clackmannan and Sauchie Towers. At the former Mr. A. F. Balfour Paul acted as cicerone, and after the architecture of the ancient structure had been examined, Mr. Paul proceeded to narrate the legendary lore of the building, commenting on the fact that it was for many years the seat of the chief of the Bruces of Scot, and in the year 1330 was the residence of King David II. From the battlements a splendid view was obtained of the modern mansion of the Bruces, Kennet House, the residence of Lord Balfour of Burleigh, Secretary for Scotland. On the motion of Mr. Henry Keir, president of the Association, a vote of thanks was accorded the Marquis of Zetland, by whose kindness permission was obtained to visit the tower. The party afterwards drove to Sauchie Tower, an unaltered example of a residence erected about the middle of the fifteenth century. Here Mr. John Watson acted as guide, and remarks were made on the building by Mr. W. M. Page. Unfortunately rain fell somewhat heavily during the afternoon, and rendered the excursion less pleasant than it would otherwise have been.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

Queen Victoria Memorial.

SIR,—This matter is of such great importance to architects and sculptors that I have written to the secretary of the R.I.B A. asking for facilities to call attention to the subject at the business meeting on Monday next, the 15th inst. This to be followed up by an open meeting in the large room of the Institute. I hope that the meeting will be a good representative one.—Yours obediently,
WM. WOODWARD.

13 Southampton Street, Strand :
April 10, 1901.

Lias Lime.

SIR,—In your issue of March 29 your article under the heading "Lias Lime" gives the impression that you had taken up the cudgels on behalf of a small company against a supposed large and powerful association—the struggling individual *v.* a combination of capitalists—endeavouring to establish a monopoly, your lance for the weak against the strong losing sight of the fact that the large influence of your paper and the weight it carries in the building world is thrown into the scale supporting the sale of any slightly similar material of any quality, under the title of blue lias lime, to the possible detriment of good concrete and brickwork.

The evidence given in the case and the magistrate's decision will practically allow any article containing some 55 per cent. of CaO (lime) such as mild or underburnt Portland cement (which in colour is like a genuine blue lias lime) being sold under the name of blue lias.

Lime burnt from the beds of the lower lias formation has different or more pronounced qualities than the lime or natural cement quarried and burnt in Cambridgeshire and other limes. Genuine blue lias lime, besides being eminently hydraulic, slakes to an impalpable powder, makes one of the most elastic of mortars (most necessary in chimney construction); 6 or 8 degs. of frost does not affect it adversely like it does natural cement or manufactured Portland cement. Blue lias lime mortar from the lower lias formation will keep several days before using without deterioration. Having such characteristics as these, how can you support the contention that Cambridge lime or natural cement (as proved by the evidence of defendant's analyst) should be sold under the name of blue lias?

The Association does not contend that blue lias is only found in one particular district of the 300 miles. There are many outcrops of the lower lias beds where competing firms burn blue lias lime, extending from Lyme Regis, in Dorsetshire, to Redcar, in Yorkshire, with an outcrop in South Wales.

A BLUE LIAS LIME BURNER.

[The article in question was intended to explain the reasons for the magisterial decision and the legal aspects of the lias dispute. It was pointed out, however, that for investigating such a case a police court was not a fitting place. That inferior stuff can be sold as blue lias is not to be prevented by any Act of Parliament which exists, but it does not follow that architects will accept an imitation for the genuine lime. Ignorance or indifference cannot be protected, and it is unlikely there will be a larger sale in consequence of the magisterial decision of underburnt lime.—ED.]

GENERAL.

M. Meunier, a well-known French civil engineer, who superintended the hydraulic installation at the last Paris Exhibition, and was a chevalier of the Legion of Honour, died last week.

St. Peter's at Rome was illuminated for the first time with the new electric-light installation on Easter Saturday night. The spectacle was witnessed by over 80,000 people.

The Communal Assembly of Florence has presented the Municipal Council of Paris with an important work entitled, "Le Cœur de Florence; études historiques et souvenirs artistiques."

Mr. G. S. T. Harris, Government architect, Madras, has been awarded the first prize for his design for the proposed Chief Court building, Rangoon. The committee of selection order the second premium to be equally divided between Mr. Hoyne Fox, executive engineer, Burma, and Colonel S. S. Jacob, superintending engineer, Jaipur State. There were nineteen competitors.

The Royal Victorian Institute of Architects intend to take legal proceedings against practitioners who are not members of the Institute, to compel them to desist from using the letters F.R.V.I.A. or A.R.V.I.A. after their names.

Mr. John Begg has been appointed consulting architect to the Government of Bombay.

A Congress of engineers, architects and surveyors will be held in Melbourne in the course of next month to discuss questions relating to the site and building of the Federal capital.

Mr. John Anderson, architect, has been appointed superintendent of works for the Heriot Trust, Edinburgh.

A Sum of 10,000*l.* is to be expended on the decoration and other internal works at Windsor Castle and Buckingham Palace.

M. Zeim has been commissioned by the French Government to paint a picture of one of the chief ceremonies of the Franco-Italian fêtes at Toulon.

Mr. Ellis Marsland will read a paper before the Society of Architects on Thursday, April 25, describing "The Results of some Tests with Fire-resisting Materials."

The Manchester Corporation passed a resolution last week deciding to acquire Heaton Park, the residence of the Earl of Wilton, on the outskirts of the city, if they can do so unfettered by conditions as to its use, and with full power to appropriate it for any purposes they may think fit, including resale for building purposes. The price asked was 230,000*l.*

A Memorial to the late Duke of Westminster has been erected by his nephews and nieces in Aldford Churchyard, upon the Eaton Estate. It bears sculptured representations of the Crucifixion, the Virgin Mary, St. John the Evangelist and St. John the Baptist on the four sides of the column, and occupies the site of an ancient praying cross.

The Society of Architects will pay an official visit to the Building Trades Exhibition about to be opened at the Agricultural Hall, Islington.

Diving Operations are likely to be conducted in the Sea of Salamina with the object of searching for remains of the great Persian fleet destroyed by Themistocles. It is proposed to employ the same divers who discovered the treasure trove in the Sea of Cerigo.

A Statue of the late Bishop of London in Carrara marble, with an appropriate pedestal, executed by Mr. Hamo Thornycroft, R.A., is to be placed in the south choir aisle of St. Paul's Cathedral, at a spot selected by the dean and the sculptor. The cost of the statue will be 1,800*l.* The committee of the memorial fund are anxious to provide a portrait of Dr. Creighton for the episcopal collection at Fulham Palace, and one for the National Portrait Gallery, of which he was a trustee. These portraits will cost about 800*l.*

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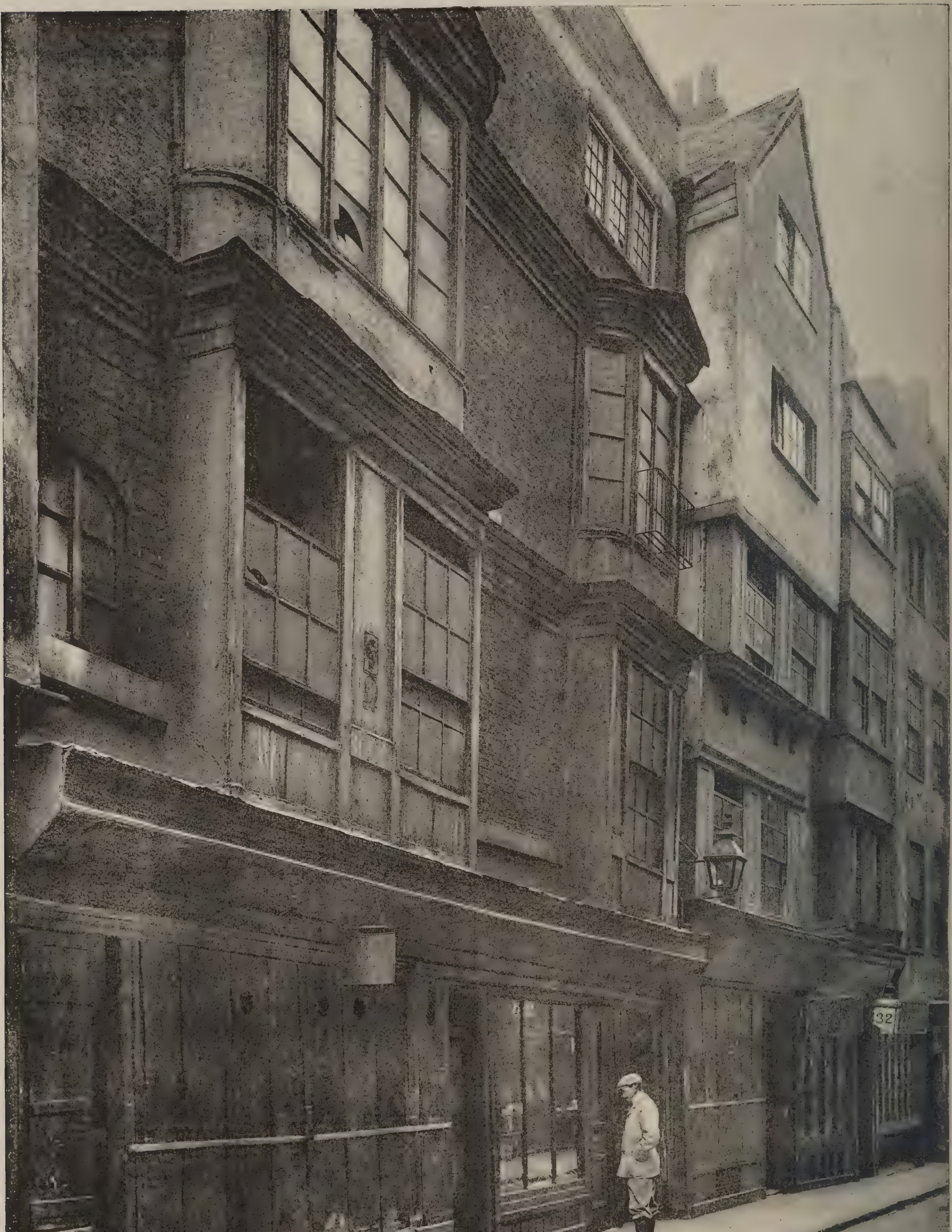

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OLD HOUSES IN HOLYWELL STREET.

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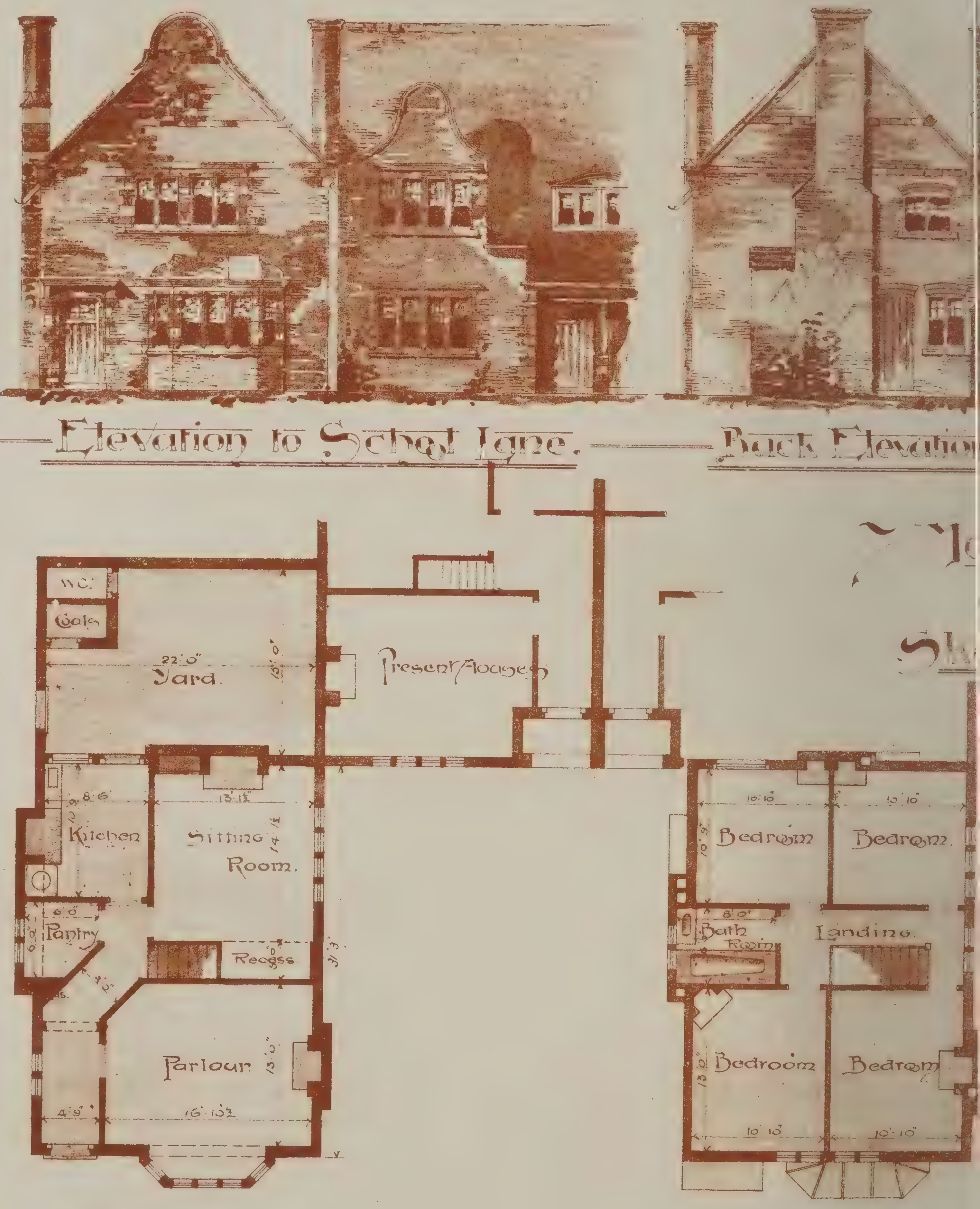
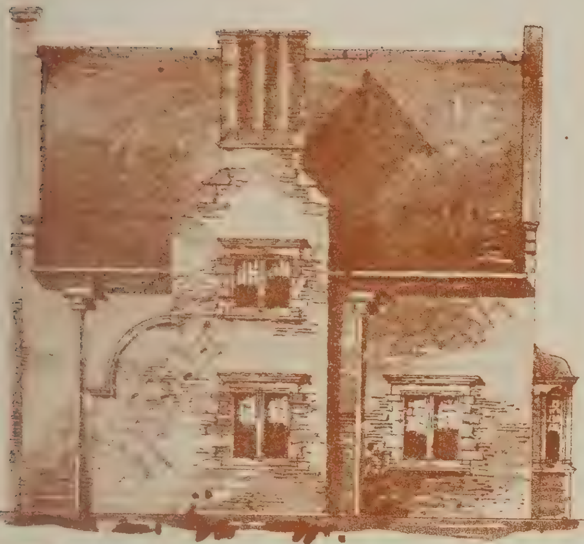


Elevation to School Lane.

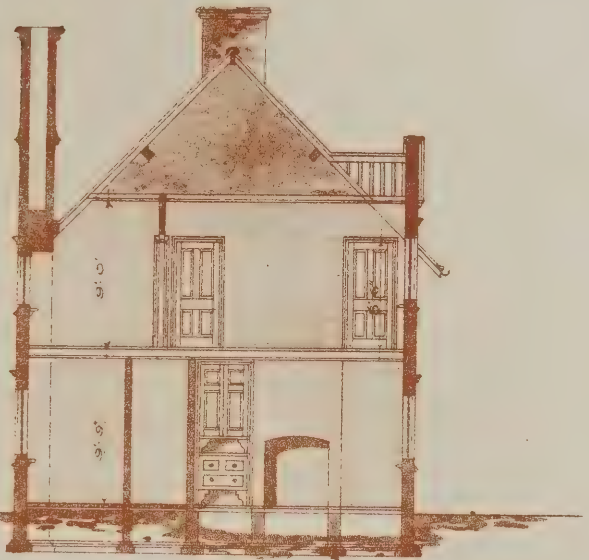
Back Elevatio

Ground Plan.

Chamber Plan.



Elevation to Block 37.



Section A.B.

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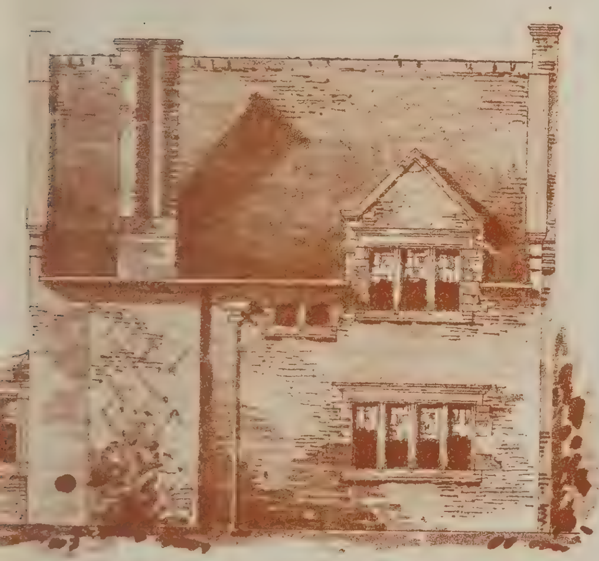
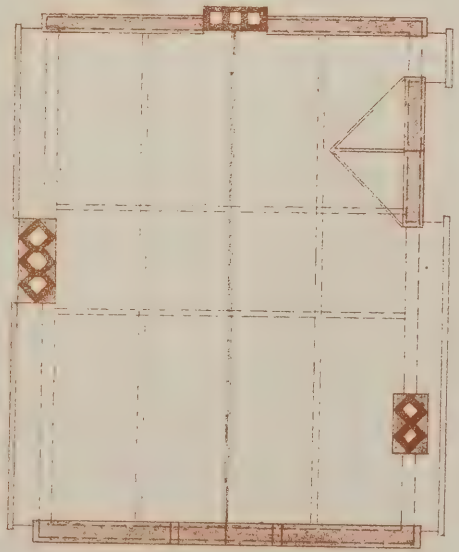
h Plans for House – Port Sunlight.



Side Elevation.



Roof Plan.

J. Joseph Talbot
Architect etc.
Port Sunlight

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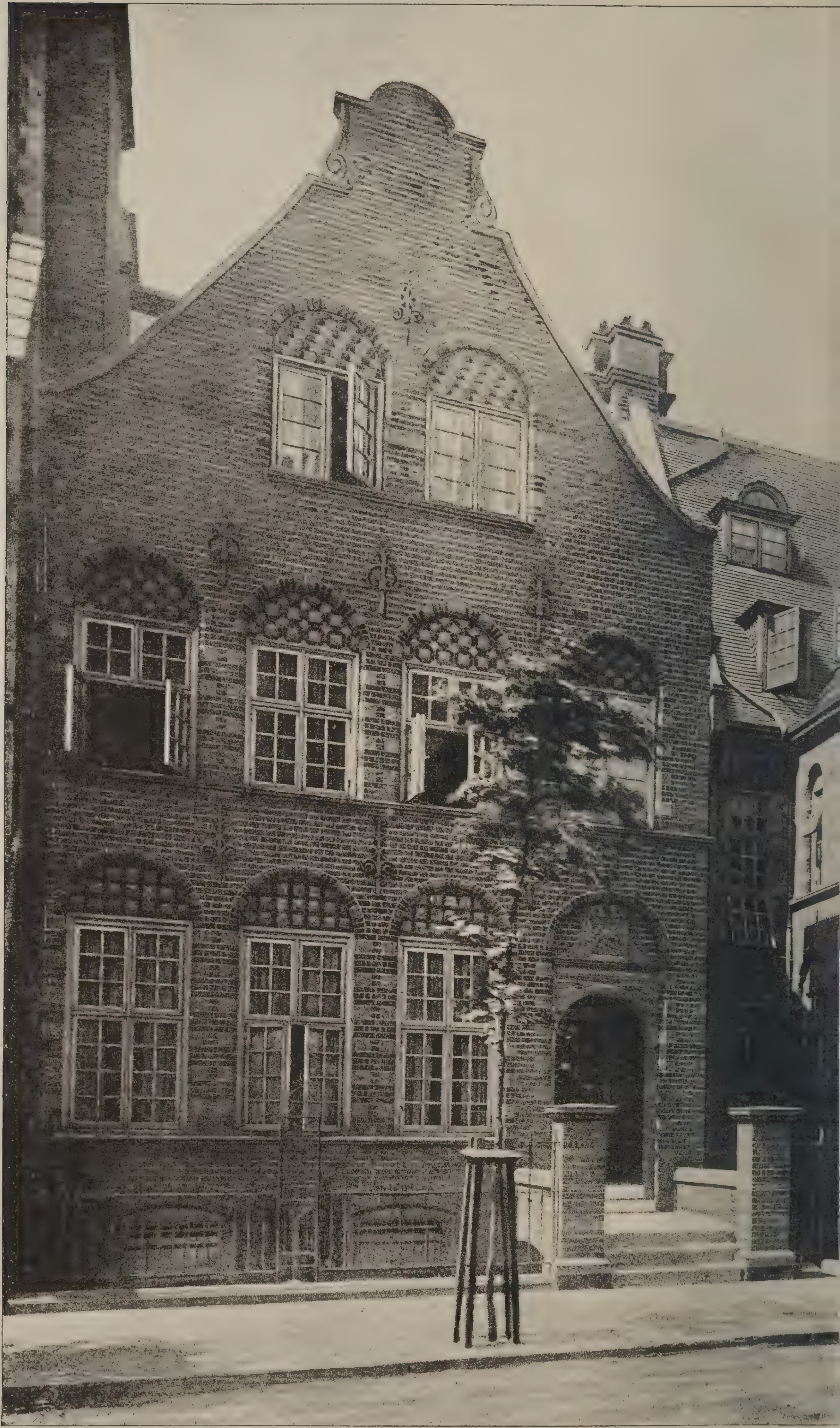

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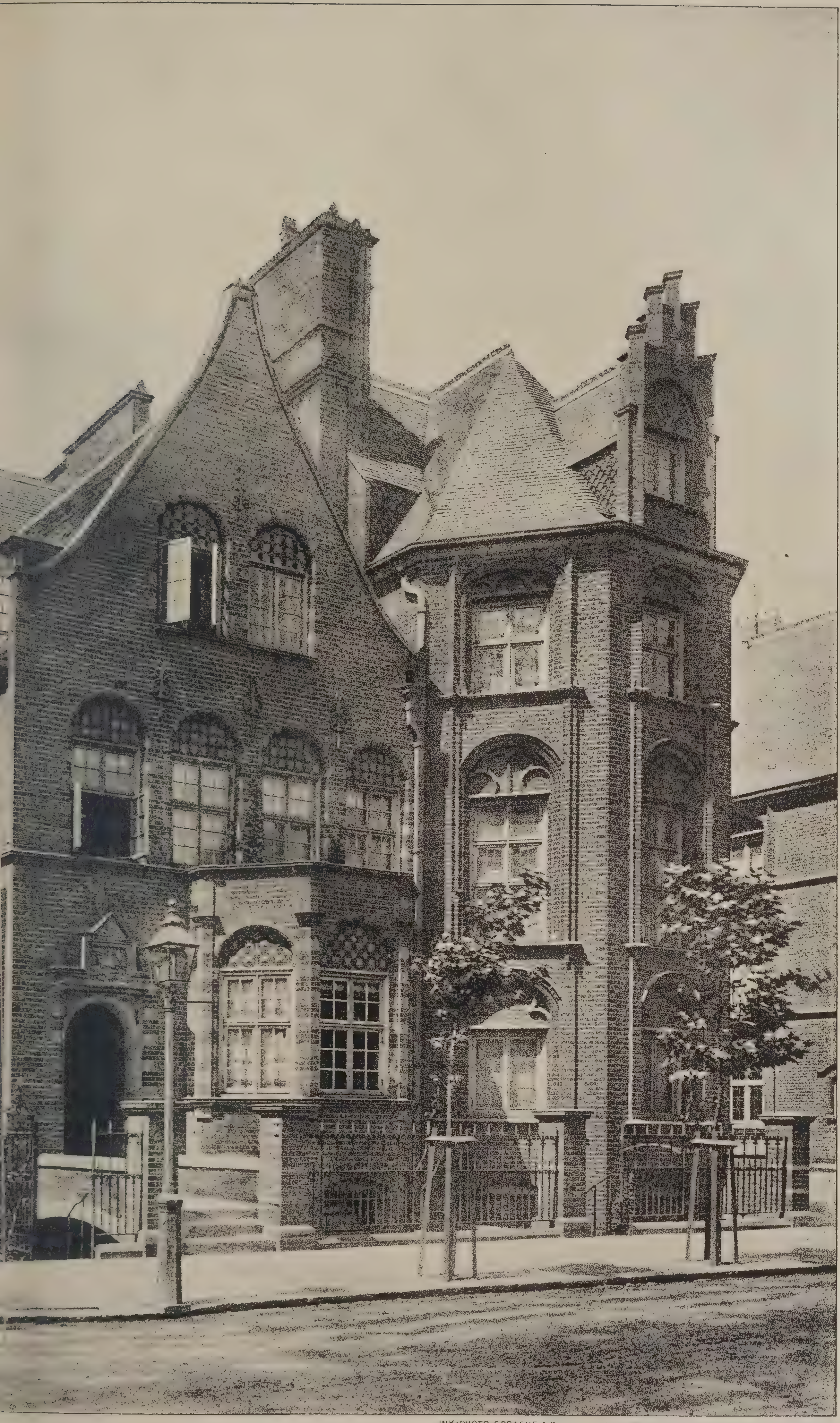
COLLINGHAM

Messrs. ERNEST GE

Apr 12th 1901.



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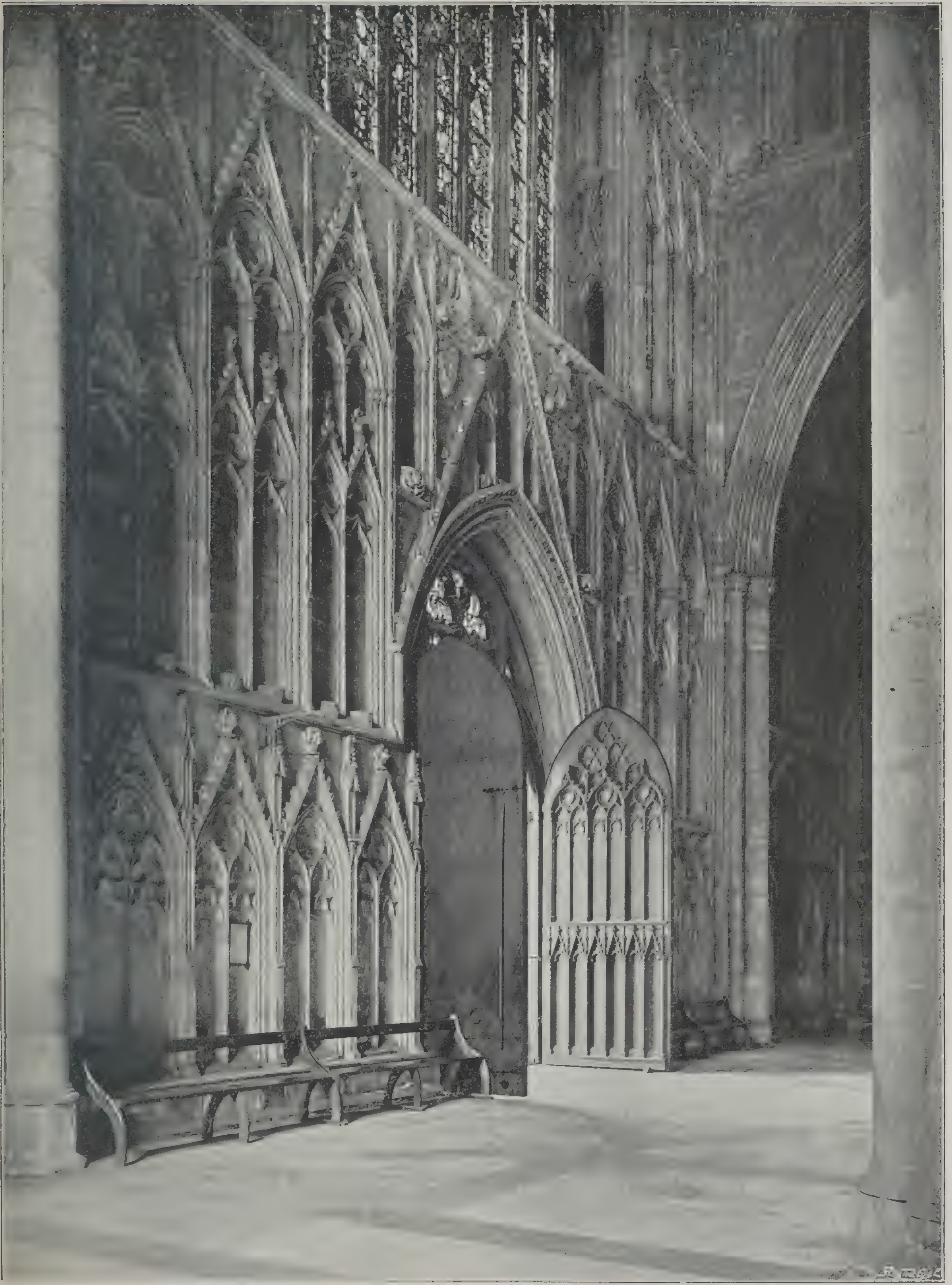
ADENS, S.W.

PETO, Architects.



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CATHEDRAL SERIES, NO. 329.—YORK MINSTER: DETAIL OF ARCADING UNDER WEST WINDOW.

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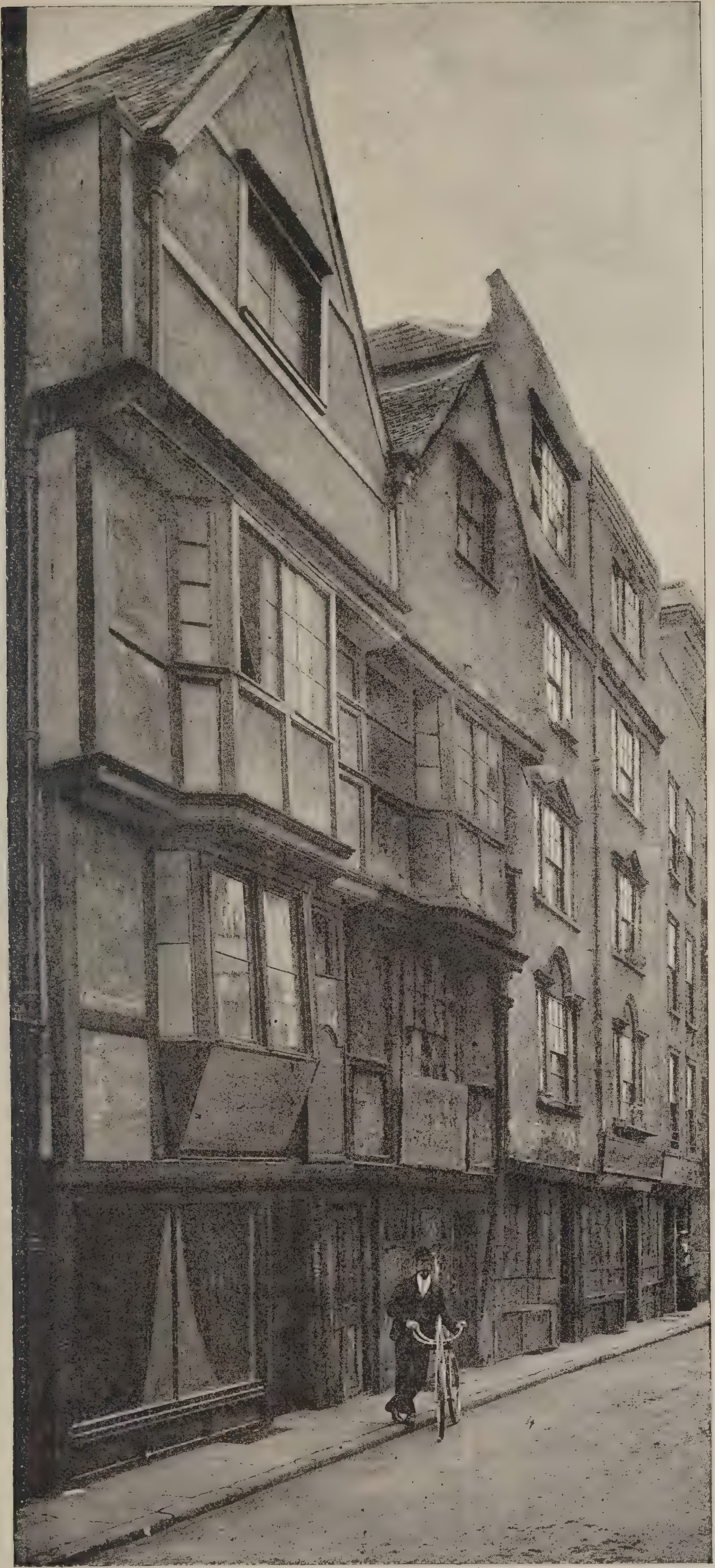
The Architect, Apr 12th 1901.



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OLD HOUSES IN WYCH STREET.

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The Architect.

THE WEEK.

IF the financial success of the Royal Hibernian Academy could be taken as a test of the value of the institution, the trifling sum which is doled out every year by the Government would be looked upon as a waste of the public funds. This year there are 379 pictures and drawings exhibited, and of that number only thirteen have been sold. In the principal room one work alone found a buyer—a small landscape contributed from London was purchased for eight guineas. The outlay on works of art has been 169*l.*, and of that sum 107*l.* measures the extent of the patronage bestowed on Irish artists by their countrymen. It would be an interesting question, therefore, to find out how Irish painters contrive to live and to keep up the state which befits a Royal Hibernian Academician. Some of them may occasionally derive a little money as drawing-masters, and others may be able to dispose of pictures at prices too low to be recorded in a catalogue. But whatever explanation is given, there seems to be little doubt that the pursuit of art in Ireland entails more sacrifices than would be endured in any other country.

HISTORY-PIECES have been long going out of fashion. Yet somehow painters survive who are peculiarly suitable for work of that class. One of them was VASCLAV BROZIK, who died a few days ago in Paris. He was in his fiftieth year, but he appeared to be a much older man. The severe work which is required for the production of pictures on a large scale could not fail to have left a mark upon him. A native of Pilsen and a student of the Academy at Prague, he was one of a band of painters who may be justly said to have created the Bohemian school in a few years. The majority of his paintings contained a great many figures, and his studio on that account often was suggestive of a performance of *tableaux vivants*. He was most careful of grouping, and his costume models must have been a most expensive element in his paintings. He lived in Paris since 1876, and his marriage with a daughter of M. SEDELMEYER, the picture dealer, insured for him a position which was of great benefit to him. The first picture which gained notice for him was his *Embassy of Ladislas, King of Bohemia and Hungary, to the Court of Charles VII.* It was secured for the Berlin Gallery. His *Condemnation of John Huss by the Council of Constance in* 1415, which some think his most characteristic work, was acquired by the city of Prague. *Rudolphe II. of Austria and his Alchemist* is now in New York. Among his other works were *Columbus at the Court of Ferdinand and Isabella*, also in New York; *The Presentation of Petrarch and Laura to Charles IV. at Avignon*, and *A Fête at the House of Rubens.* VASCLAV BROZIK was in the full maturity of his powers at the time of his death, and the loss of an artist who was so thoroughly devoted to historical painting causes much regret among those who possess catholic tastes in art.

THE opposition to limited competitions, or the dispensing with the principle of competition, is not confined to London and the National Memorial. In Birmingham the arrangement, which finds acceptance in official quarters because it is supposed to save inconvenience, has caused much discontent. A competition for the new university buildings would have given an impetus to architectural endeavour, and for some time past the local architects had been anticipating an opportunity for testing their artistic powers. The University Council, however, came to the onclusion that the obtaining of designs by competition was not adapted to the circumstances of the case. Not nly the architects of Birmingham, but some of the ubscribers were surprised at the decision. The University Council, however, declined to alter their rrangements. As a last resource it is now proposed to sk Mr. JOSEPH CHAMBERLAIN, who is chancellor of the niversity, to receive a deputation of subscribers and architects, when it is expected adequate reasons will be given for a reconsideration of the subject. Birmingham has always believed that in business monopolies are not advantageous. But for a great many years one firm was enabled to obtain the commissions for the majority of the official buildings in the town. When deprived of all chance of showing its strength, it was not to be expected that local architectural talent would thrive, and this was made an excuse for going elsewhere for architectural aid. In so important a city which depends for its existence on the success of art industries, the necessity of possessing capable architects should be evident to all the citizens. But if they are to be prohibited from undertaking such buildings as those of the new university, it cannot be expected that architecture will be able to exercise that influence over local art which is essential to prosperity.

IT is fortunate the announcement about the purchase of the Lowther Arcade was not made at Christmas-time, for then life would present a different aspect to many young minds. It is not good to learn too early how little permanence there is in London, and to think of the Arcade transformed into a bank would be more than many children's minds could well bear. It is, however, prudent for Messrs. COUTTS to accept the inevitable, and if their existing premises must be removed to allow of a widening of the Strand they could hardly find more desirable quarters than on the site of that passage which afforded delight to so many young eyes. COUTTS' have been dwellers in the Strand for nearly two centuries, but it was not their original settlement in London. When a branch of the business of Provost COUTTS, of Edinburgh, was established in the City the spot selected for operations was Jeffrey Square, St. Mary Axe. It showed some courage to emigrate afterwards to the Strand, for in the early part of the eighteenth century it was possible from the back windows to have a view of the Kent and Surrey hills. Adelphi Terrace, the work of other Scotsmen, was then unbuilt, and THOMAS COUTTS was able without much imagination, when he looked southward, to create pictures of the rural scenery with which he was familiar around Edinburgh in his youth. Externally the bank made no pretension as an architectural work, but few buildings in London contained in its strong rooms more treasures. The proprietors were trusted by those who had other valuables besides money, and the history of the clients of the bank would form an interesting narrative of the eighteenth and nineteenth centuries. When the removal takes place COUTTS may leave off their old austerity and erect a new bank which will be comparable with the modern structures of the class.

IT used to be imagined that Gobe-Mouches were only to be found in perfection among Parisians. It is now evident the species is to be found in London, with the peculiarity of being still more disposed to accept absurd statements regardless of whether they are true or false. They must be exceedingly numerous, for nearly all the morning and evening papers are devoting themselves to catering for the class. From the fuss that has been made about an insignificant sign of weakness in Westminster Abbey, it is evident that the fear of ridicule, which has some restraining effect on the French Gobe-Mouches, is powerless in London. The journalists who undertake the duty of providing the aliment required may not be better acquainted with Westminster Abbey than with the interiors of other churches, for otherwise they must have known that in so large a building there are ornamental as well as constructional elements. A marble shaft belonging to one of the windows succumbed through the weakness of an iron pin which held it in its place. The cause of the mishap was probably the passing of a steam-roller, a motor waggon, or one of those moving masses of immense weight which surveyors class as "extraordinary" traffic. But the fall of a 4-inch shaft could not in any way endanger the stability of the Abbey, and the outcry about it in the journals is simply a manifestation of the ignorance respecting construction which prevails among writers who claim to be omniscient. Westminster Abbey is an ancient building, and the masonry is not exempt from a universal law which makes decay inevitable. But the building is in no worse condition than it was half a century ago, and in some respects the careful reparation has made it stronger.

RAILWAYS AND BUILDING.

THE late Sir Edward William Watkin could hardly be said to have belonged to the pioneers of railway management, for he was not born until 1819, but he possessed several of their characteristics. Socially he sprang from a higher class. Cawkwell, who for so long was responsible for the working of the London and North-Western system, was originally an employé at a small station, and when most powerful he retained much of the humbleness of his early employment. Seymour Clarke, the best known of all the English managers in Parliamentary committee-rooms, rose from a clerkship, as did Grierson of the Great Western, Allport of the Midland, and others. But Sir Edward Watkin could not be traced further back than to a time when he held a secretaryship, and he was therefore wanting in the peculiar experience which characterised the old school of managers, and especially in the use of strong language when dealing with inferior officials.

The managers who preceded Sir Edward Watkin built their hopes on the traffic of goods. George Stephenson's earliest line, the Stockton and Darlington, conveyed comparatively few passengers. The Liverpool and Manchester Railway, which was the first experiment in a complete organisation, was for a time looked on by the travelling public as a curiosity rather than as a means of regular communication. In 1831 the receipts were about 102,000*l*; in 1832 they had fallen to 88,000*l*. It was thought a triumph when 1,000 passengers a day were carried. We must remember that originally the speed between Liverpool and Manchester was not to exceed 10 miles an hour, but the advent of Robert Stephenson brought more expedition. The triumph of the system was supposed to be seen in such cases as that of the broker who went from Manchester to Liverpool in a morning, purchased 150 tons of cotton and brought them back with him, when he was able to sell them at a profit and return for a similar quantity. Another fact which suggests the early principle of railway working was that some years had to elapse before the railway committee insisted that one third-class train was to pass along every line and branch every day, and to call at each of the stations. It was not till after the railway mania that passenger traffic attained sufficient importance to convert Chaplin, who owned over sixty coaches, into a railway carrier in connection with the London and North-Western system.

The preponderance of the goods element was exemplified in the great battle of the gauges. In those days it was believed that goods traffic was mainly local, the possibility of an interchange of it with other lines being considered absurd. Brunel, in his report to the Great Western directors, insisted on the advantages of the 7-foot gauge because the system could have no connection with any other, and would therefore secure for the company a monopoly of the business in the West of England and in South Wales. In fact, it was thought wise for a system to have its special waggons. There were consequently gauges of 5 feet, 6 feet, 7 feet, with others in which fractions of a foot were employed. Some advocates affirmed then that a more narrow gauge than the one adopted was needed, especially in the interests of farmers. The requirements of travellers were of little moment. The discomfort of third-class carriages was additional proof of the extent of the regard which directors and managers evinced for passengers All the law stipulated was that the carriages should be covered in one train a day, and consequently all those people who were not able to pay second or first class fares were compelled to travel in vans which afforded no protection against the weather. The position of the stations also showed the neglect of the convenience of travellers. Originally the London and Birmingham Railway was brought no nearer to London than Camden Town, which was then a region of market gardens. The advance to Euston was looked upon as a rash undertaking which was never likely to pay. The Great Western stopped at Paddington, which was at the time a remote territory. In country towns it required only very slight obstacles to warrant a company in keeping outside the boundaries. But whether in London or the provinces the positions of the stations will not appear so unsatisfactory if it is recollected that the convenience of passengers was of small account to the engineers who laid out the lines and the officers who controlled the working arrangements. The same spirit inspired the people who catered for the public in refreshment-rooms. Dickens's renowned "Boy at Mugby" expressed the theory which was originally adopted by railway heads in this country when he said:—"It is only in the Isle of the Brave and Land of the Free that Refreshmenting is so effective, so 'olesome, so constitutional a check upon the public." Just as the ladies in the refreshment department regarded the public as the Beast that was to be fed, to the officials the public was the Beast to be carried, and the aim was to make the victim as uncomfortable as possible. There might have been some excuse for so odd a way of treating customers in the earliest days of railways, but it required only slight attention to the accounts in order to ascertain that a larger revenue was to be obtained from passengers than from goods traffic. As far back as 1839 Whishaw was able to demonstrate to the Institution of Civil Engineers that on a line of 60 miles, with an income of 324,000*l*., over 260,000*l*. was derived from fares. Officials were not, however, to be convinced.

Sir Edward Watkin was from the first in a position to accept and act upon the facts of a case, and he could have made arrangements which would correspond to the claims of passengers. He knew so little by experience of the working out of details on a railway he could have taken a broad view of income and outlay, and have acted as if a railway organisation was mainly intended to meet the necessities of passengers. But it must be owned that no man was more obnoxious to railway travellers, and his name was only a by-word which was associated with slow trains, comfortless carriages, want of punctuality, and other evils. The South-Eastern Railway gave rise to more grumbling while he was connected with it than any other line in England. His biggest schemes seemed to be inspired by the traditions of the older school. His Great Central was essentially a bid for goods traffic, for he could not dream of superseding the other lines to London in the favour of travellers His Channel Tunnel was ostensibly projected for the prevention of the misery of travellers by sea. But a work that would jeopardise the safety of England hardly deserves discussion as a practical remedy for any evil.

His removal will, we hope, lead to a more rational consideration of what is necessary in the working of modern railways. It must be admitted that on every line there are two main sources of income, for it is only in exceptional cases that goods traffic or passenger traffic has only to be reckoned There must be more or less opposition between the two varieties, and it is the business of directors and managers to reconcile them as far as possible. Passenger traffic should have preference, for it brings in most revenue. All that is feasible should therefore be done to accommodate it. Stations are in general ill-adapted to their uses. There was an outcry when Hardwicke was asked to design a hall and gateway at Euston, and a like spirit still prevails. Even on new extensions we can see signs of an endeavour to expend as little money as possible for the convenience of those who use the buildings. If railways were not exempted from building regulations and sanitary by-laws, there would be a general clearance of the edifices on different lines without much delay. It is not merely as a general proposition that we advocate a revolutionary reform. It makes a great difference to people who contemplate the erection of houses whether there is a station in the neighbourhood that can be called fairly satisfactory. If a line succeeds in gaining notoriety for disregard of time-tables and for failure to provide station accommodation that will not impose inconvenience on those who use it, building work is retarded, or, it may be, people will seek elsewhere for what they need. Sir Edward Watkin would have gained an enduring reputation if he had boldly encountered the difficulties, but the cold encomiums of which his career has been made the subject should be enough to convince other railway magnates that a different course of conduct is desirable in future. All that is needed is to consider that men, women and children differ from bales of goods, and are not to be treated as if they had no sense of their rights.

PLANS AND PLANNING.*

THE word "plan" is so familiar to all who have an interest in building, any doubts about the uniformity of its meaning will appear incredible. At one time, however, the word employed to signify the arrangement of a horizontal space was not "plan" but "plant." In one of his precautions for the benefit of gentlemen who were disposed to erect mansions, Sir Henry Wotton said: "Let no man that intendeth to build, settle his Fancy upon a draught of the *Works in paper*, how exactly soever measured or neatly set off in perspective; and much less on a bare *Plant* thereof, as they call the *Schiographia* or *Ground* lines, without a *Modell* or *Type* of the whole *Structure* and of every parcell and Partition in *Pastbord* or *Wood*." In that way the word would be connected with the French "planter," which, among many other meanings, is applied to the commencing of operations for the erection of an edifice, and "plantigrade," one who walks on the sole of the foot. The modern slang term "plant" would therefore be allied to an architectural plan. The French have, however, ceased to use "plan" as generally as is done in England, and prefer to accompany it by another word which will give it precision. If we can suppose the English "plan" or "plant" to be suggestive of the earth's surface, then the word corresponds with the German *Grundriss*, and to some extent with the French *rez-de-chaussée.* It defines the horizontal section which is to be accepted as the ground plan—a matter which is sometimes doubtful to those who have to measure old mansions and compose descriptions in deeds for legal purposes. It should also be considered that important buildings, such as churches, consist of a single floor, while in others the various floors are little more than repetitions of the ground floor. The science of planning is consequently less complicated than appears at first sight, and much information on the subject can be imparted in a volume of limited size.

In planning, the first consideration must be what is required by those who will use the building? An economical disposition of the area in order to make the most of the site may be uppermost in an owner's thoughts, and therefore it is often said that a naval architect's advice is worth seeking, for he is accustomed to utilising every square inch of space. But a public or private building which at the first glance reveals a cheeseparing thrift cannot make a visitor feel at ease or assured of the generosity of the owner or tenant. There is an English spirit in Wotton's words when he describes a man's house as "the theatre of his hospitality, the seat of self-fruition, the comfortablest part of his own life," and whether large or small, a building cannot be expressive of so much excellence if on entering a mere passage takes the place of a hall, and the staircase will not allow of two visitors to go abreast. However small may be a house, some attempt to secure impressiveness should be made, and that is impossible with a rigorous economy. In building, as in dress, utility by itself is insufficient, and anyone who persuades a client to imagine artistic effects are to be produced without any addition to the cost of the plainest house is not acting sincerely.

Among the principles which Mr. Marks recommends n his treatise on planning as desirable are accommodation, the relation of the site to adjoining buildings, aspect, privacy, roominess, furniture, requirements, prospect, grouping, design and economy. He considers a variety of buildings, such as art galleries, artisans' dwellings, assize courts, banks, barracks, baths, churches, clubs, fire-brigade stations, hospitals, hotels, houses, asylums, municipal buildings, museums, schools, theatres, workhouses, &c. The following extract relating to the arrangement of ynagogues will suggest the manner of treating the different lasses of buildings:—

> A synagogue requires for ritual purposes a reading forum "Al Memar"), "ark," choir seats (as a rule), wardens' pew, ulpit and vestry. Other requisite accommodation consists of ews for the congregation (for men in the body of the building, nd for women in the galleries), cloak-rooms, lavatories, &c., arthex, heating chamber. A "Succah" has to be borne in ind when planning the synagogue (this is a chamber or enclosure commemorative of the booth-dwellings of the Israelites during their forty years' sojourn in the wilderness), and is only required for use during one week in the year. It must be provided with a movable roof. Committee and class rooms and beadle's residence are also frequent provisions. The congregation should be slightly benefited in accommodation beyond the dimensions for church and chapel sittings, as there is apt to be more perambulation on the part of individuals due to their active participation in the ritual. 1 foot 8 inches by 3 feet should be the minimum for the unit of pewing. The Jewish ritual necessitates the segregation of the sexes, and this is met by installing women in the galleries, as they have not any such active participation in the service as noted above. The best position for the choir is still debated in Jewish circles. The matter cannot be so easily decided as in Christian places of worship, as it is customary for Jews to dispense with instrumental music. The Gordian knot is successfully disposed of when there is not any choir, the singing being congregational. The "Al Memar" should be of a size to accommodate the reader and from six to eight people in addition. The "ark" usually assumes the form of an enclosed shallow recess at the extreme end of the synagogue (usually and by preference the eastern end). It is provided for the reception of the "scrolls of the law," seven or eight or more in number. It is customary to provide a "narthex," which is a distinctly useful feature, and gives an air of completeness to a building of this class. Cloak-rooms, lavatories and gallery stairs open off this glorified vestibule, as frequently also does a vestry.

The examples of plans which are given are taken from those by architects who can be considered as specialists, and which have been carried out. Accordingly they have a reality which does not always belong to plans which are solutions, as it were, of abstract problems. Architects who take an interest in the subject (and who does not?) will, of course, desire a larger number of examples, but they can be gathered from time to time. Mr. Marks's book is well adapted to form the nucleus of a collection such as all practitioners should possess, and which, while affording pleasure in obtaining examples, will also be of continual use.

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* *The Principles of Planning:* an Analytical Treatise for the use f Architects and others. By Percy L. Marks, architect. London: T. Batsford.

THE NATIONAL MEMORIAL.

IN a letter to the *Times* Mr. G. F. Bodley, A.R.A., writes:—

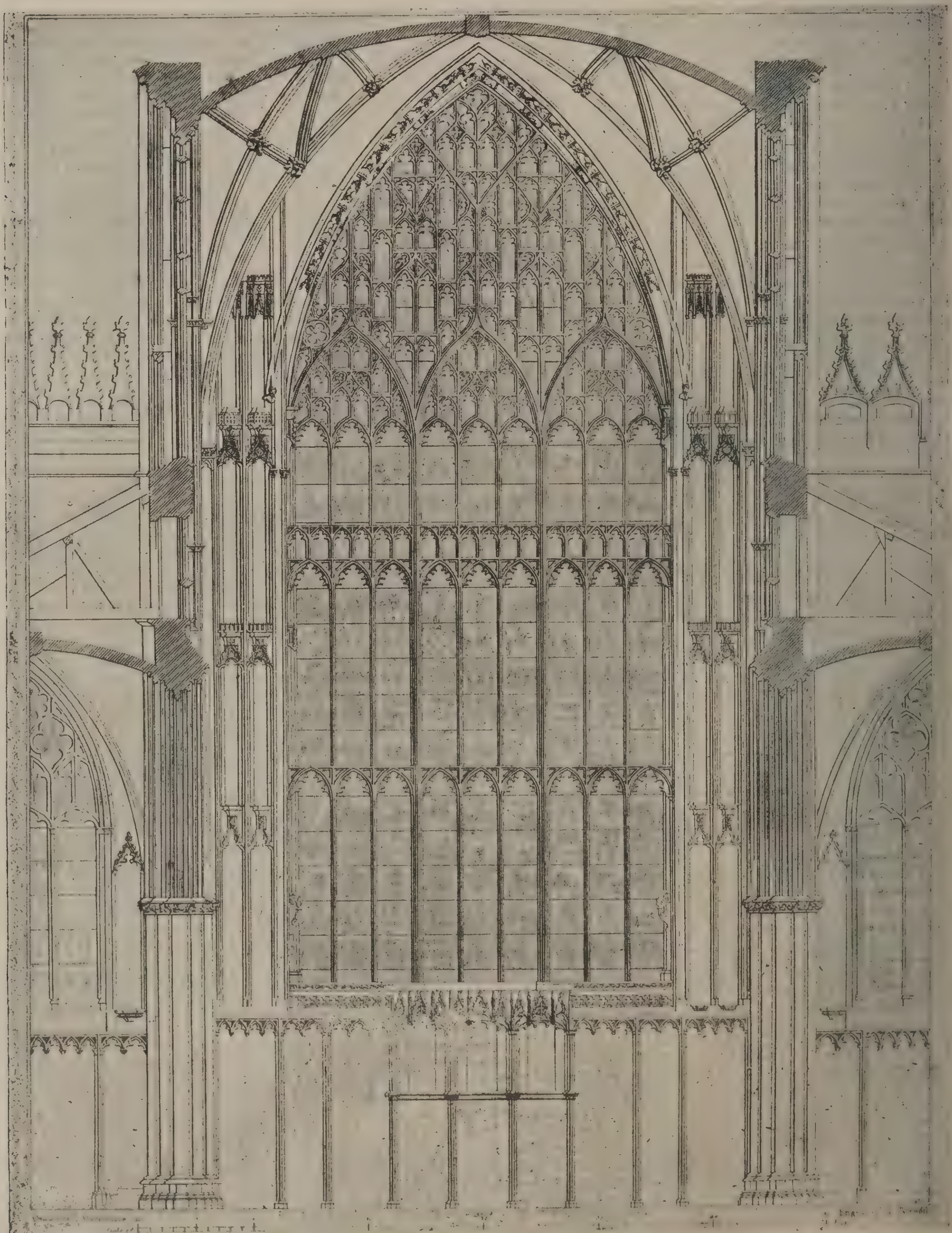
Many thoughts are being turned to the memorial for the late Queen. May I contribute an idea as to a position I think it might take in St. James's Park?

I would place it rising out of the lake. Not, however, isolated, but connected with either bank by a bridge of a sufficient but not too great a width. This should have light and graceful arches. At either end of this bridge road there could be a flight of steps and an archway with statuary and heraldic bearings and bronze gates. Statues might also be placed on the piers of the arches of the bridge. In the centre the memorial would rise four-square or octagonal, its base rising from the water. The lower part could be of red or grey granite, and the whole of the superstructure of white marble, with bronze statuary. It could be made a beautiful object in a beautiful situation. The seated or standing figure of the late Queen should be under a canopy surmounted by a cross. In style I should like it to be of our own English Gothic, but there may be a prejudice against Gothic, and it could very well be designed in a refined "Renaissance" manner. The gates could be of bronze, and could be made very beautiful with subjects taken from the history of our land and of the colonies. The whole could be made very striking in character, at once picturesque and unique. In scale I would not have it overpowering; I would have it more remarkable for refined beauty of detail and really artistic sculpture than for any too considerable largeness of actual scale. The exact position would have to be carefully determined. I cannot but think that in this site our loyal memorial would have a situation of an especial and a poetical character, and one of much beauty and dignity, and would be better placed than if it were too near the large mass of Buckingham Palace. It would not cumber any existing roadway. It would be well seen from the space in front of the Horse Guards.

His Majesty the King, who, as Prince of Wales, has been president of the Society of Arts since 1863, has now graciously acceded to the request of the Society, and has consented to become its patron. His Majesty has also permitted the Society to continue the use of his profile on the medals of the Society.

YORK CATHEDRAL: THE GREAT EAST WINDOW.

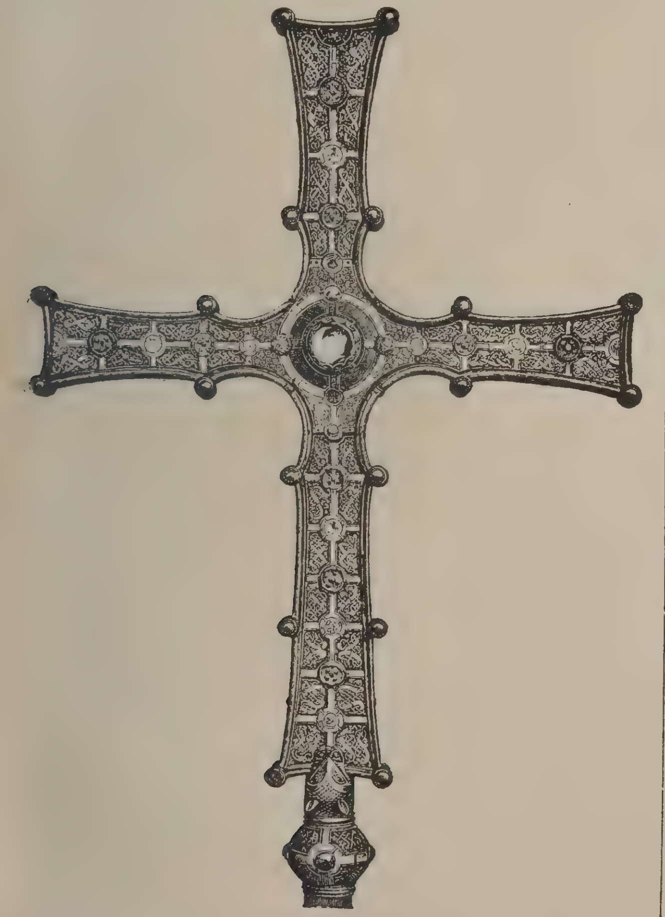
AMONG Torre's MSS. is an abstract of an agreement, dated August 10, 1485, by which John Thornton, of Coventry, glazier, contracted with the Dean and Chapter of York to glaze and paint the great eastern window shown in the illustration. The work was to be executed with his own hands, and to be finished in three years. He was to receive four shillings per week and one hundred shillings at the end of each of the three years. If he performed the work to the satisfaction of his employers he was to receive the further sum of ten pounds in silver. The window measures 78 feet by 32 feet, and nearly all the glass is old. There are about two hundred subjects from the Old Testament and the Apocalypse, but they are sometimes difficult to make out. Professor Willis says it is not to be supposed that the stone tracery of the window was only just completed when the order was given for the glazing. The plan pursued in the carrying on of works of this description seems to have been to fill the windows with linen cloth, which gives a sufficient light, or with plain glass, until some benefactor could be found to furnish the glazing, or until it was convenient to employ funds for the purpose. It is well known that the glazing of a single window was a very favourite form in which to subscribe to the carrying on of ecclesiastical work in the Middle Ages.



THE CROSS OF CONG.

No more beautiful example of Celtic metalwork has survived than the processional cross which formerly belonged to the Abbey of Cong, in the county of Mayo, and is now to be seen in the Dublin Museum. It was purchased by Professor M'Cullagh, the mathematician, in 1839, and presented by him to the Royal Irish Academy, of which he was a member. That it was produced in Ireland is evident from the inscriptions. One is in Latin, but for the lettering Irish characters were employed. The others consist of prayers in Irish for Muireduch O'Duffy, the senior of Ireland; Turlough O'Conor, the king of Ireland, for whom the shrine was made; Donnel, the son of Flannagan O'Duffy, Bishop of Connaught and Coarb of St Comman and St. Ciaran, under whose superintendence the shrine was made; and Mælisa, the son of Braddan O'Echan, who made the shrine. The cross was unquestionably a shrine, for the crystal in the centre covered some relic, which may have been only a small portion of the True Cross, and presented to the king. Owing to the number of details a description of the Cross of Cong is not easily prepared. The latest, and in some respects the most complete, appears in the last number of the *Journal of the Royal Society of Antiquaries of Ireland*. It is from the pen of the president, Dr. E. Perceval Wright. We take the following extract from the communication:—

The front of the cross on which the crystal lens is placed consists of a shaft with two arms; the outline is bounded by a raised and well-rounded rim, which is of silver, and at intervals along this rim are eighteen settings, filled with beads of red and green enamel, which beads project beyond the rim. The enamel beads have dropped out of four of these eighteen settings. Running up the central portion of the shaft and arms are the sockets for nine other beads of enamel—three on the lower portion of the shaft, and two on the upper portion and on each arm. Of these the enamel has dropped out of eight, but the bead still *in situ* on the right arm of the cross indicates, no doubt, the shape and colour of the rest, and has been taken as the authority for Miss Stokes's coloured drawing of the cross as partly restored. Around the setting of the crystal lens there are two beads of blue and white enamel, one on the commencement of the right arm, and the other on the commencement of the left arm of the cross; that to the right has a looped pattern, that to the left is a cross with spirals. There are the places and traces of the settings of two others, which were probably of the same character, to the north and south of the central crystal. These are represented in Miss Stokes's coloured drawing as filled in with red enamel, but I do not see any justification for this.



Cross of Cong.

Along the central line of the shaft and arms, and alternating with the beads of red enamel, are a series of flattened silvered discs—three on the lower portion of the shaft and one on the upper part of the shaft. On each arm, in addition, a half disc of the same character terminates the ornamentation of the central portion of the arms of the cross. On all of these flattened discs, or half discs, a spiral pattern is inlaid in silver. The pattern on each differs from the rest. Four slightly smaller discs of the same style are to be found on the arms of the central boss of the cross, to the right and left of the beads in blue and white enamel, and above and below the vacant receptacles for the two corresponding beads already referred to.

The space between the silver and beaded margins of the shaft and arms of the cross and on either side of the central row of enamelled beads and engraved discs may be, for purposes of description, divided into two areas—(1) that occupying the central portion, of which the quartz crystal, covering the sacred relic, occupies the very centre, and (2) that of the two portions of the shaft and the arms. Even a casual glance at the original reveals a very marked difference between the work on these two areas. The central area consists of a short-armed cross, $5\frac{1}{4}$ inches in each diameter; the four arms are formed of two plaques each, of beaded filigree spiral work (of these the left lower plaque is wanting). These arms subtend four quadrants, which serve as settings to the crystal. Out of these plaques the filigree work has fallen, but the remains of the pins that held them are visible, and the engraved rim and semicircular flaps, which still further secured the crystal, are yet preserved. The beaded filigree work is of fine gold, which in certain light has quite a ruddy gleam.

The shafts and arms of the cross, constituting the second area, are divided into a series of thirty-eight compartments—seven to the right and to the left of the lower part of the shaft, four to the right and to the left of the upper part of the shaft, and four on the upper and lower portion of each arm of the cross. These compartments (which are separated from each other by intervals, and are covered with silver) are filled in with plaques of fine interlaced work. These are fastened by pins to the copper plates, below which is a timber framework. These plaques are castings in a fine bronze, and have the appearance of having once been gilt. While there is a striking similarity between the patterns on the plaques opposite to each other, it seems probable that, from the minute divergence to be seen on careful examination in the forms of the loops, that no two of the thirty-eight plaques were cast from the same mould. The looped pattern is of the zoomorphic type. The lower portion of the front of the shaft is held in the grip of the head of an animal. I will not make any attempt at determining for what animal's head this effigy stands, but I think it may be concluded that it is not that of a serpent. There is a corresponding head on the back of the cross.

Beneath the heads is a slightly flattened and highly decorated sphere. There are four beads of blue enamel at equal distances around the equator of the sphere. In those on the front and sides the enamel is plain, but the bead on the back is ornamented with white enamelled loops, like the bead on the central boss. The plaques that are affixed to the sphere are of the same character as those on the lower portion of the shaft. Below the sphere is a socket to receive a staff. It terminates in four animal heads of the same nature, but smaller, as the two that hold the shaft of the cross. The plaques above these little heads, pentahedral in form, are wanting.

The back of the cross presents a totally different aspect from the front; there are, no doubt, the same silvered projecting rim, and also a corresponding series of eighteen projecting settings. These, however, are not, as on the front of the cross, filled with plain red or green enamel beads, but each of them is filled with a flattened yellowish enamel, having patterns inlaid on the flat groundwork in red enamel. I cannot find that any description of this series of mosaic-like enamels has as yet appeared in print. I am too great a novice on the subject of enamels to make any positive assertion as to the nature of this interesting series. They give the impression of the glasses being cemented into the "cloisons," not fused into them—of being of the type known as pseudo-cloisonné enamel. Of these beautiful enamels two are wanting. Probably when fresh the red enamel was more uniform in colour, but time has corroded it in parts. All the patterns are surrounded by a rim of the red enamel. The idea of a short, equal-armed cross pervades them all. Some of the enamels recall those on the Ardagh chalice; two of them, the lowermost to the right hand of the lower shaft of the cross, and the uppermost of the left hand of the upper shaft of the cross are the same, and present an interesting form of cross, which reminds one of some of those on the inscribed stones at Clonmacnoise. Of the sixteen enamels present the patterns of eight are repeated. The plaques measure from $\frac{8}{16}$ to $\frac{9}{16}$ of an inch in diameter.

Between the silvered rim the back of the cross is filled in with four bronze plaques, covered with filigree zoomorphic work of the same, but of a bolder type, as the small plaques in the front part of the cross. One plaque is wanting. Where these four plaques meet in the centre of the arms of the cross there may have been at the line of junction some ornamental rim, but I rather incline to think the present condition of this portion of the cross is to be accounted for by the ends having been cut off these plaques, so as to allow of two heavy bronze braces to be fastened on to this part of the cross, which braces were countersunk into the silver rim both of the back and front of the cross, and, looping over to the front, were intended to not only brace the arms of the cross together, but also to keep the central boss, with the crystal, in its place. The work was most ruthlessly done, but the tendency of this portion of the cross to fall asunder is still very evident.

The space between the front and back portions of the cross forms a shallow valley bounded by the silvered rims. These two surfaces are well braced together by eighteen rivets, which run from each of the front series of enamelled beads to the corresponding ones at the back. The heads of these rivets are, in fact, covered by the different enamels. Along the valley, on the sides of the shaft and arms, a silver ribbon was laid; this at intervals was fastened to the framework by small wedges, the heads of which are very diminutive copies of the animal heads holding the cross. Small as these heads are, the eyes are of enamel. Professor M'Cullagh alludes to them as nails which held the cross together.

The famous inscriptions are to be found on this silver ribbon. The letters are not all of the same size or shape, so that several sized punches must have been used.

SUBURBAN EDINBURGH.

WHAT William Creech said in 1792 about Edinburgh, that "like London, the suburbs are now more extensive than the city," is even more true to-day. By suburbs here we do not mean, says the *Scotsman*, any arbitrary division of municipal or Parliamentary boundaries, but simply the outskirts. Like a tree, the growth of a city is most apparent at the circumference, and it is on the outskirts that growth is best seen. Edinburgh has continued to expand since the completion of the North Bridge gave access to the extended royalty (1767) over which the regularly planned streets of the New Town pushed westwards and northwards. Landlords in the heart of the town began to quake when the South Bridge extension and the bridge over the Cowgate were completed, lest rents should go down. It has always been the other way about. The valued rent between 1763 and 1786 doubled itself, and by 1791 was trebled; while when the building boom was fairly begun some 2,000,000*l.* was expended in stone and lime in twenty years. The extent of the town in 1791, from the west end of Fountainbridge to the east end of Abbeyhill, was slightly over 2 miles. From Broughton on the north to the Grange toll-bar on the south was a like distance, while the circumference was about seven miles. The total area of the last extension in the Bill drafted to include Leith and Portobello was roughly 21 square miles. Leith has been obdurate, but Portobello is included in the municipal extension of 1896. Before that the area of Edinburgh was 9⅔ square miles; so that the suburbs are responsible for this great extended municipal and police boundary sweeping such a large area into the town, which had already covered green fields and annexed and obliterated farmhouses. The Redistribution of Seats Act, 1885, made the Parliamentary boundaries co-extensive with the municipal boundaries. The municipal and police boundaries by the Act of 1896 go beyond this, and almost touch the village of Blackhall and Corstorphine to the west, sweeping round by the south side of the Braids and Blackford, almost touching Liberton to the south, and having monopolised Portobello to the east, pass by Pilrig and Bonnington to the Leith and Queensferry Road.

The most remarkable growth of our suburbs has taken place within living memory during the past half-century. When our late good Queen Victoria, Prince Albert and the royal children on August 30, 1850, drove from Holyrood to a point opposite Dunsappie Loch, and climbed Arthur's Seat, they, according to the report of the time, enjoyed the unrivalled scenery which that splendid vantage ground affords. The natural features, which have drawn exclamations of delight from pilgrims of all countries, are unchanged, but a new town has grown up all round since then. Even to the eastwards the builder has climbed as far as he may towards the slope of the hill; the sweet village of Duddingston, sitting beside its gleaming loch, now consists of a new and old village. What would the Rev. John Thomson, of Duddingston, the poet-painter, have said to a foreground of breweries between the manse and his beloved Craigmillar Castle? An occasional villa dotted the old Dalkeith Road; but Echo Bank was then a village. Now the buildings run to Cameron House, outside Prestonfield. The cable car extension almost touches the foot of Liberton Brae, with villas on either hand, and many pleasant side streets. In 1850 Blacket Place was little more than commenced, while the houses stopped at Mayfield, at the foot of Minto Street. South of the meadows were Fingal Place and Sylvan Place, but the Grange district was then open fields and gardens, intersected by the Lovers' Lane, with the cemetery laid out, Grange Farm to the east and West Grange to the south of Grange House, long the home of Sir Thomas Dick Lauder. The Directory of 1849-50 gives a list of some eight families under Merchiston, two of whom are farmers, one a grazier, and another a gardener; under North Merchiston, two names only; some fifty families around Boroughmuirhead, under Morningside, which was then a village, whither Edinburgh doctors sent their patients for a change of air. To the east were Canaan Grove and Woodville, in what was then called Canaan (Lane), the home of Christopher North's naturalist brother, James Wilson; Milne Bank, the residence of Professor Syme; Canaan Lodge, associated with Dr. Gregory. Bloomsberry Cottage at the top of Canaan Lane, built by the ill-fated architect of the Scott Monument, for many a day well deserved its name, as it bloomed with roses. It is now a laundry, but change is imminent; the place is for sale. Let the curious look at the carved stones built into the walls of the stable here, borrowed from some chapel window; and the memorial-stone to a forgotten worthy with the long Latin inscription built into the lintel of the stable door. Canaan Cottage, Canaan Bank and St. Roque lay to the east. Tipperlinn House was built and Deuchar Street; Morningside Asylum, the grounds of which are now partially built upon, stood there alone. The Jordan Burn, or Pow Burn, the southern Parliamentary boundary then, washed its south enclosure. Egypt Farm, on the other side of Jordan Burn, was also isolated, with an entrance from the Penicuik Road, just opposite our present Morningside Station. Braid House, or the Hermitage, into which villas now peep, was then very much isolated. Mr. Johnstone, factor on the Braid estate, believes that the gable of an old ale-house still exists at the top of the Hermitage garden. He has himself seen a portion of the wooden signboard with the word "Ale" not yet obliterated. Ploughlands, on the slope of Craighouse Hill, with Craighouse, stood also in solitary state, and beyond it Craighouse, where J. Hill Burton wrote his "History of Scotland," is now an asylum. The town to the westwards, at Fountainbridge, had only crept as far as Brandfield Place, with the Castle Silk Mills, on the Canal Basin, to the south; while from Haymarket, Dalry Lane ran west to Dalry House, surrounded by gardens, with the cemetery just beyond. No suburb has been more changed than Dalry and Gorgie. A resident the other day estimated that the Tynecastle district must have a population of some 13,000. The town then extended to Morrison Street, and West Maitland Street was only partially built; around Donaldson's Hospital was open country, with Whitehouse Farm, Coates, Coates Hall and West Coates to the east. The town had got as far as the east side of Manor Place, Drumsheugh is blank, but Lynedoch Place and Randolph Crescent were built.

As early as 1822 Lord Teignmouth notes in his "Reminiscences of Many Years" that the "new town of Edinburgh, erected forty years previously, was now fast extending, especially westwards. The beautiful estates of Drumsheugh and Dean, whose woods shrouded the high banks of the then clear trout stream of the Water of Leith, were already doomed. Lord Cockburn has eloquently deplored the dismantling of Dean, a large portion of which is now the site of a celebrated cemetery. "The demolition of Drumsheugh House and subsequent gradual felling of the timber had already commenced when we breakfasted there with my old schoolfellow, John Stuart, afterwards eleventh Earl of Moray, the din of the workmen sounding like the hammering down of the lid of a coffin." There was not a house, save the church at the north end of the Dean Bridge, until 1850, when a beginning was made with Clarendon Crescent, which it was thought would rather block the view of the Moray Place folks to the northwards. The Ordnance Survey map of 1853 shows the crescent completed. Stockbridge then stopped at Mary Place; Comely Bank, where Carlyle took up house at No 21, and resided for eighteen months (1826-28), was quite isolated. On the slope in front, where Orchard Brae came down from the Dean, stretched the Patriotic Society's allotments on the right hand. Daniel Stewart's Hospital was founded in 1849. Inverleith House stood on its knoll surrounded by trees, while Inverleith Row had only fifty-seven families noted in the directory. Horatio M'Culloch, the landscape painter, occupied No. 54.

Robert Louis Stevenson in his "Picturesque Notes" speaks pungently of the "infuriate zeal of builders" who were changing and desecrating many a delightful suburb "Day by day," he noted, "one new villa, one new object of offence, is added to another; all around Newington and Morningside the dismallest structures keep springing up like mushrooms, the pleasant hills are loaded with them, each independently squatted in its garden." There is a touch of bitterness as well as of exceeding truthfulness in these words written twenty-five years ago. Our "vilest climate under heaven" banished the author to more genial skies ere he saw how fully twenty-five years ago he was a true prophet. A greater iniquity than planting down villas has been the jostling of the villas out of existence, as in Bruntsfield in favour of tenements. Since Stevenson wrote the increase of the suburbs has been even more rapid. The annual increase in the valuation of the town rental between 1855 to 1860 was from 13,000*l*. to 15,000*l*. In 1860-61 there was some 23,000*l*., in 1877-78 there is a large increase of 69,000*l*., there is a set back in 1883-84, an increase of 121,000*l*. in 1896-97, until 1900-1 shows an increase of 159,000*l*. The population of the town in 1791, which was about 80,000, is now over 270,000, and the valuation which was then about 69,000*l*. is now 2$\frac{3}{4}$ millions sterling. For this great increase our continually growing suburbs are mainly responsible.

It would be unfair to go further without hinting at the wealth of romance associated with so many of our suburban haunts or residences, either much changed, surrounded, or entirely removed. But only a hint can be given. Mrs. Atholl Forbes in her "Curiosities of a Scots Charter Chest," has told the story of the Dicks of Prestonfield. In Mrs. Smith's "Grange of St. Giles" will be found the romantic story of the Dicks and Lauders. Hugh Miller, when he visited Sir Thomas Dick Lauder in Grange House in 1834, was shown the rooms where Principal Robertson wrote his last history and where he died; also a curious relic of Queen Mary, a watch formed like a human skull, and the original plan and elevation of Abbotsford, a gift from Sir Walter Scott. Sir Thomas Dick Lauder grows poetical in his "Scottish Rivers" when he comes to write of Blackford House and its resident, Miss Menie Trotter, who bathed in the Jordan Burn and walked before breakfast over the breezy slopes of Blackford. The place, which now echoes to the trains on the suburban railway, was previous to 1848 as retired as if in Sutherlandshire, with its fine open grove of well-grown trees and the snowdrop, crocus and pale primrose in their season. "The effects," he says, "of sunlight and sky here might draw all the artists in Great Britain to study them;" the birds, we are also told, would then shut up an opera house; the blackbirds and thrushes excelled all songsters anywhere else, and there was something cheerful to him in the very sparrows around Blackford House.

Miss Warrender, in her delightful "Walks round Edinburgh," hints at a Covenanting origin for all the Biblical nomenclature in Morningside. Here is another possible suggestion. Mrs. Fletcher, wife of a well-known Edinburgh advocate, came out from Edinburgh with her husband and children in 1799 to Egypt Farm, which stood near the foot of the present site of Woodburn Terrace. "Mr. Fletcher's health as well as my own," she says, "seeming to require change of air, we repaired with our children to a very inexpensive cottage in the Morningside district to the south of Edinburgh called Egypt (so named in memory of a gipsy colony who, as tradition said, had their headquarters in the immediate neighbourhood by virtue of a grant of land from one of the Scottish kings)." Did this name start the Biblical nomenclature? Egypt Farm at least stood across the Jordan Burn till after 1870. It was this same Mr. Fletcher who aided Lady Carnegie of Dalry House in her work in connection with a House of Refuge which existed for seventeen years in Dalry Lane.

If Sir Thomas Dick Lauder indulged in prose poetry over Blackford House, the Rev R. Morehead, D.D., at one time Dean of Edinburgh and one of the ministers of St. Paul's, York Place, felt enthusiastic while resident at Ploughlands, at the top or west side of what is now Morningside Cemetery. The farmhouse is one of the few remaining links with older Morningside, but it also is doomed in a year or two, and buildings cover this slope of Craighouse Hill. The Ordnance Survey map of 1853 marks "ruins" to the east of Ploughlands, and Sir T. Dick Lauder writes of the "remains of an ancient castle or tower, very much encumbered by the modern buildings of a farm." He peeped into the ruined dilapidated apartments, and thought with pity of those who had been condemned to live in them. The only ruins now to be seen are the fragment of a wall and doorway, at the back of the sheds of Mr S. Tanner, gardener, here. Dr. Morehead is worth quoting as to the atmosphere of the place in June 1823. "A most beautiful summer residence near Braid, where I am alone with my daughter Isabella In the mornings I study Hebrew. I sometimes think of writing my journal here in blank verse. There is a great deal of poetry scattered about me, if I could catch it, and it is a pity to lose the power of versification. The poetry of life is the only poetry it is worth preserving. But I shall not strike it out from prose this morning." Sir Walter Scott used to quote some lines of Dr. Morehead's on Eildon Hills, beginning thus—

> Calm slept the clouds on cloven Eildon laid,
> And distant Melrose peeped from leafy shade,

to his visitors at Abbotsford, and then ask the authorship. Professor Wilson admired his Pentland series of sonnets. It was this same divine who, in walking between his country residence at Corstorphine and Edinburgh, struck out the idea in 1825 of a cheap journal for the people. His "magnificent plan" for the instruction of the lower orders he submitted to the great Constable, who seems to have been too deep in other matters to entertain it at the time.

Edinburgh is now encircled by the railway; the Caledonian branches to Leith and Cramond Brig give access to the suburbs of Dalry (where there is now a station), to Murrayfield, Granton Road and Leith. Portobello and Leith have excellent railway facilities. The suburban railway since 1884 has put the citizens in touch with the eastern and western and southern suburbs. The car main lines connect the suburbs in every large district with the heart of the town. The great municipal schemes of recent years have affected the suburbs also, such as the Water of Leith purification scheme; the new fever hospital at Colinton Mains, just outside the town boundary. The Talla water scheme implies changes at Fairmilehead, as the removal of the gas works from the Canongate affects the neighbourhood of Granton. But no annexation has been hailed with greater pleasure and profit by the inhabitants than the privilege of rambling over breezy Blackford Hill, or driving a golf ball across the Braids. The rise of such clubs as Mortonhall Golf Club, Lothianburn, Barnton and others augurs well for the health and future well-being of the race.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A SPECIAL general meeting (business) was held on Monday, April 15, Mr. E. A. Grüning, Vice-President, in the chair.

A recommendation of the council that Mr. Wm. Emerson be requested to allow himself to be nominated as President for the ensuing year of office, and that, consequently, by-law 26 be suspended, was adopted.

The alterations in the Institute form of contract proposed by the council were sanctioned, subject to slight verbal amendment. Copies of the clauses will be found in *The Architect* of the 5th inst.

Mr. Wm. Woodward gave notice that he would ask the council to convene a special general meeting at the earliest possible date for the purpose of considering a resolution urging that the "proposed National Memorial to Queen Victoria should be open to the competition of all British (including Colonial) architects, sculptors and artists."

PRESERVATION OF STONEHENGE

A PARTY of representatives of societies interested in archæology met Sir Edmund Antrobus at Stonehenge to discuss the details of the resolutions passed at the recent conference in London.

The details of the work it is proposed to carry out with the view of maintaining the stones in a position of safety were fully discussed, and the representatives present unanimously approved all the suggestions made at the London conference. It was decided to proceed with the work as soon as the weather is favourable. It will be carried out under the supervision of Mr. Delmar Blow, architect, assisted by an eminent civil engineer; and nothing in the way of restoration will be attempted. The only object the societies have in view is the preservation of this ancient memorial. The first work to be undertaken will be the raising of the huge monolith, No. 55 B on Mr. W. M. Flinders Petrie's plan, which overhangs the altar stone and is in a most dangerous condition, into an upright position. It is the largest and finest monolith in England next to Cleopatra's needle. At present it rests on a smaller stone, but there are two large flaws or cracks in it, and if it were to fall it is feared that it would be broken into three parts. The experts engaged in the work will next proceed to examine the stones numbered 6 and 7 on Mr. Petrie's plan, with the view of putting them in a position to support the lintel which rests upon them. The other recommendations of the societies will be carried out in due course, and in the meantime Sir E. Antrobus hopes to obtain permission to divert the roadway now passing through the earth-circle which surrounds the stones, and to proceed with the erection of the wire fence as approved at the conference in London. Sir E. Antrobus explained to the representatives present that the object in asking for the road to be diverted was to make the fence round the stones in the least offensive way possible to any one approaching the memorial. The representatives of the local authorities present expressed their approval of the diversion of the road. If the road is not diverted the wire fence will have to be erected close to the stones, which would be very unsightly, whereas if Sir E. Antrobus's suggestion is agreed to, the fence will be erected in a position which will not in any way interfere with the natural view which the archæological societies are anxious to preserve.

NOTES AND COMMENTS.

On to-morrow it is expected the French Société des Artistes Indépendants will be able to open their exhibition in Paris. The municipal authorities have lent for the purpose some premises in the Cours la Reine. It will be the seventeenth exhibition, but the society can count more years of duration. Latterly the two principal societies of French artists have shown a readiness to accept the work of the Indépendants, and in consequence there was no need for a special exhibition. It must also be admitted that the exhibitions which were confined to that class of painters have not been financially successful. An occasional example of the school may give variety to walls on which pictures more or less conventional are hung. But a collection in which license is displayed on every canvas is not exhilarating. The exhibition will be interesting as indicating the latest mode of thought, for novelty and independence are closely allied.

A great many visitors, after toiling to the summit of Montmartre in order to see the vast basilica of the Sacre-Cœur, are amazed with the surroundings. The buildings have all a tumbledown character which, although characteristic of Montmartre, is not in keeping with so important a monumental work. We lately mentioned that it was decided to introduce some improvements. The plans have now been prepared by M. Formigé. It is proposed to convert the ground into a formal garden in the style of the seventeenth century. The trees will be arranged as quincunx, with grass in geometrical beds. All the vegetation, in fact, will have to assume an approach to an architectural character. There will be also a terrace with arcades and fountains and basins of immense size. In that way it is expected the appearance of the basilica will be enhanced, and much will be done for the improvement of a spot which is visible from many parts of Paris.

The late Mr. Harry William Christmas was an English barrister for whom modern science was an interesting subject He wished to promote it, and accordingly he has bequeathed to the French Académie des Sciences 100,000 francs, or 4,000*l* The interest is to be applied in rewarding some discovery in physical science, especially electricity or magnetism. The Académie will therefore be able to bestow an annual prize of 3,000 francs. The money will be an advantage apart from its amount, as by means of it modern science and its applications will be placed on a similar footing to the older sciences, which have been long watched over by the Académie. The Académie des Sciences was founded by Colbert in 1666. There are eleven sections, viz. geometry, mechanics, astronomy, geography and navigation, physics, chemistry, mineralogy, botany, rural economy, anatomy and zoology, medicine and surgery. Electricity and magnetism have had hitherto no official recognition, and the value of Mr. Christmas's bequest is not to be counted by the interest derived from it.

It is not often so vast a difference arises between the amount claimed and the amount awarded as has been exemplified in the arbitration case between the Manchester Racecourse Company and the Manchester Ship Canal Company. In August last the Racecourse Company sent in a claim for a million sterling as compensation for 100½ acres required for works in connection with the canal. The Trafford Park Estates, Ltd., had offered 280,000*l*. for the property, but the Canal Company claimed to have the right of refusal before an offer was made elsewhere. Various negotiations followed, and eventually the Racecourse Company agreed to sell the land to the Trafford Park Company for 280,000*l*., together with an option to the Racecourse Company to purchase 150 acres from the Trafford Park Company at 1,500*l*. an acre for the purposes of a racecourse. The agreement for sale was to be subject to the rights of the Ship Canal Company, and the Trafford Park Company undertook to indemnify the Racecourse Company against any claim which might be made by the Canal Company. Several questions had to be decided respecting the rights of the different parties, and at length it was decided that the price to be given for the land was to be determined by arbitration. Mr. Robert Vigers, surveyor, was appointed arbitrator. The Racecourse Company required six days in presenting their case, and the value of the land was stated at from 730,000*l*. to 850,000*l*. The experts on behalf of the Ship Canal Company valued the property at no more than 130,000*l*. According to Mr. Vigers's award the amount to be paid by the Ship Canal Company is 262,500*l*. The difference between that sum and 280,000*l*. will probably be met by the Trafford Park Company, as well as the large costs connected with the case. The proceedings are remarkable, and we are afraid outsiders will come to the conclusion that there is no certain basis for the majority of valuations of landed property.

At the annual meeting of the Shropshire Archæological Society on Wednesday there was one novel element which excited unusual interest. Dr. J. C. Bridge, organist of Chester Cathedral, delivered an address on "Samuel Pepys and his Music." Musical selections, performed with the aid of "recorders," or ancient flutes, lent by the Cheshire Archæological Society, exemplified the character of the compositions, and suggested the kind of instrumentation which, as we learn from "Hamlet," was common in Shakespeare's time. The success of the Society during the past year has satisfied the Council. The total receipts amounted to 206*l*., and for the first time in the Society's history there is a small balance in hand after meeting the expenses. The annual report stated that during the past year the Council had spent a considerable sum in refencing the Roman ruins at Wroxeter, but want of sufficient funds had prevented the excavations being recommenced. The Ancient Monuments Protection Act of last year would, the Council believed, have very important results. Power was given by it to county councils to purchase or accept any monument of historic or architectural interest within its area, and to make the necessary arrangements for its preservation.

The official reports on the Paris Exhibition of 1900 will exceed in number all those relating to preceding exhibitions. Already it has been arranged that twenty volumes of special reports are to be printed, besides two volumes of general reports and a technical report in four volumes. In addition to the twenty-six volumes, the official catalogue in its complete state will fill thirty volumes, and the reports of 130 congresses connected with the exhibition have also to be reckoned. The exhibition was divided into 120 classes, and for each a report is to be prepared. But more than eighty of the specialists have failed to supply a single page of manuscript. One of the consequences is that the National printing office is at present at a standstill for the immense work which has been undertaken. Some of the general reports have been prepared; but those which are likely to be most popular cannot be in the hands of exhibitors and the public for an indefinite period.

ILLUSTRATIONS.

EMPIRE HOTEL, LOWESTOFT.

CATHEDRAL SERIES.—YORK MINSTER: THE CHOIR, FULL LENGTH TO EAST WINDOW.

HOUSE IN HARLEY STREET AND WIGMORE STREET.

STABLES AT MARLOW.

ROYAL HOTEL, CARDIFF: STAIRCASE.

THE AUSTRALIAN COMMONWEALTH.

A PAPER was read lately before the Society of Arts by Sir John A. Cockburn, the agent-general, on "The Commonwealth of Australia."

The nativity of the Commonwealth, on January 1, was, he said, celebrated in Sydney with a splendour of pageantry and intensity of enthusiasm which have never been surpassed. The auspices under which the history of the Australian nation has been inaugurated are unprecedented in their favourable aspect Watched over and protected by the greatest and most powerful Empire the world has ever seen, the union of the Australian states has been dictated and hastened by no external dangers such as those which encompassed and compelled other federal formations

There yet remains another brilliant festival before the citizens settle down into the ways of the workaday world. The heir to the British throne is to be present in Melbourne to open the Commonwealth Parliament in May, and neither money nor pains will be spared to make the event worthy of the occasion. The spacious exhibition building is being prepared for the event. The Commonwealth Parliament is to be located in Melbourne until suitable accommodation is provided at the federal capital.

The federal capital is to be situated within territory which is to be acquired by the Commonwealth. This area is to be no less than 100 square miles, and there is a strong public feeling against its permanent alienation, and in favour of the formation of a constant revenue by the establishment of a system of leasing, which will be beneficial alike to occupier and to public owner The selection of the seat of Government lies solely in the power of the federal Parliament, and although several localities have been suggested, nothing is known beyond the fact that the site is to be somewhere in New South Wales beyond a radius of 100 miles from Sydney.

One of the first tasks to which ministers will address themselves is to take the necessary steps for the election of the members of the Senate and of the House of Representatives. The former is to consist of six senators from each state, thirty-six in all, elected for six years, half to retire every three years. The House of Representatives is to be triennial but subject to dissolution, and will consist of seventy-five members, twenty-six from New South Wales, twenty-three from Victoria, nine from Queensland, seven from South Australia, five from Western Australia and five from Tasmania. The electors for both Houses will be identical, and will include women in South Australia and Western Australia. Each state will vote as one district for senators, but will in most cases be divided into districts for the election of representatives. No plural voting is permitted. The members of both Houses are to be paid 400*l* per year. Under these circumstances neither House can be expected to play the rôle of a Conservative chamber, though each will revise the acts of the other. Members of both Houses must be twenty-one years of age, and at least three years resident in the Commonwealth, and subjects of the Queen, either native born or naturalised for five years. The disqualifications are foreign allegiance or citizenship, undischarged bankruptcy, an office of profit under the Crown except that of a Minister of State, and a direct or indirect pecuniary interest in any agreement with the public service otherwise than as a member of an incorporated company of twenty-five persons. Absence without leave for two consecutive months renders a seat vacant in either House.

The House of Representatives being elected in proportion o population will represent Australia as a nation, and just as

DECORATION OF QUEEN SQUARE, SYDNEY.

it may be said to be constituted on the basis of one man one vote, so the Senate, owing to the equality of representation of all states within its walls, may be regarded as the embodiment of the principle of one state one vote. To it will be entrusted the dignity of representing the states as distinct entities, and the senators from the smaller states will have an opportunity of redressing any inequalities to which these may be subject in the other House. Appropriation Bills and Bills imposing taxation must originate in the House of Representatives These the Senate may reject but cannot amend, although it may return such Bills at any stage with suggestions for amendment. This arrangement confers the chief power of the purse on the House of Representatives; otherwise the powers of the two Houses are practically co-ordinate.

The relative importance which the Houses will assume is a matter of much interest, and the future of the Senate depends largely on the conduct and calibre of the first senators. A much debated method of settling deadlocks between the Houses has been adopted If the Senate rejects or fails to pass a Bill passed twice, with an interval of three months, by the House of Representatives, the Governor-General may dissolve both Houses simultaneously; and if, after dissolution, the House of Representatives again passes the Bill, and the Senate again rejects or fails to pass it, the Governor-General may convene a joint sitting of both Houses, and at this sitting an absolute majority of the total number of members can carry the Bill.

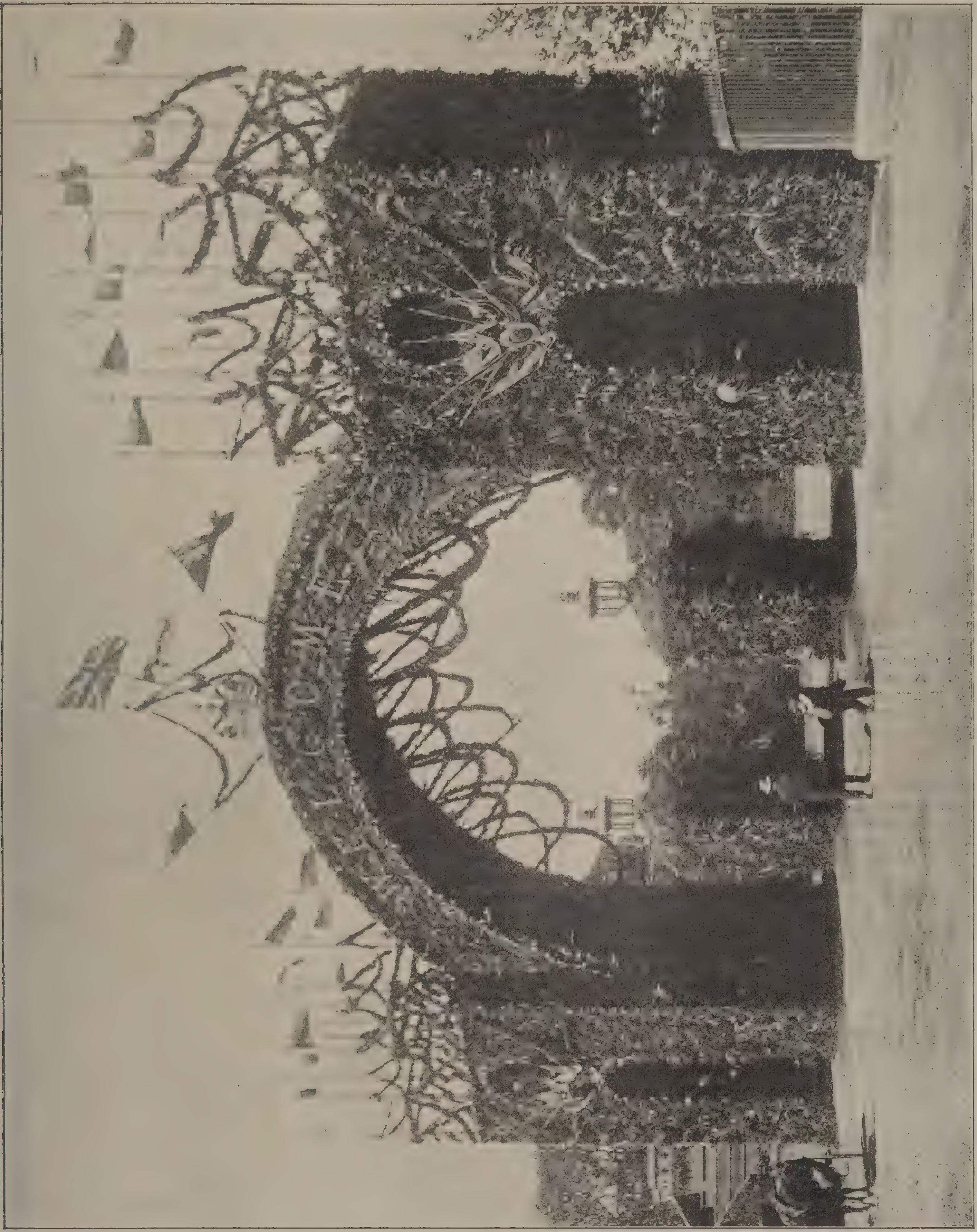
DECORATION OF MACQUARIE STREET, SYDNEY.

As a preliminary step towards securing inter-state free trade, which is the chief object of federation, the departments of Customs and Excise, together with all their officers, were taken over by the Commonwealth at its establishment. A uniform tariff must be framed within two years. The personnel of the Cabinet is protectionist, and a protective tariff is predicated by the necessity of raising about 8,000,000*l.* from Customs duties. It is greatly to the interest of each state to return the ablest men available, irrespective of their fiscal opinions; in view, however, of the fundamentally opposed fiscal systems of New South Wales and the other states the elections must to some extent turn on the question of free trade and protection.

Under these circumstances it is not difficult to forecast the result of the elections, but owing to the immense amount of work involved in starting the federal machinery the framing of the tariff may not be so speedily accomplished as was at one time expected. Goods imported previous to the date of the imposition of uniform duties are on transfer to any other state within two years of that date liable to the balance of the federal duty. As a check on federal expenditure, and to prevent any embarrassment to the states, it is provided that for a period of at least ten years three-fourths of the net revenue from Customs and Excise shall be paid to the states or applied towards the payment of interest on state debts taken over by the Commonwealth.

The federal Parliament may regulate navigation and shipping, and may forbid any preferential or discriminating railway rate which is adjudged to be prejudicial to any state by an inter-state Commission, which is to be appointed by the federal authority for the purpose of securing absolute freedom of inter-colonial trade.

An enlargement of the sphere of Australian autonomy will take place under the Commonwealth, for some of its powers were not previously under the control of the Governments of any of the colonies—such as the relations of the Commonwealth with the islands of the Pacific, and fisheries in



GATES OF GOVERNMENT HOUSE,

Australian waters beyond territorial limits. The Commonwealth laws are also to have force on British ships whose first port of clearance and whose port of destination are in the Commonwealth

External relations will be matters of federal concern; so that to casual observers, as seen from the outside, Australia will appear to be under one Government. On the other hand, the state governments being nearer to the people will concern them more closely than the more remote federal authority; just as it is the walls of a house which are visible to those without, while the apartments are to the inmates the more prominent features. Such departments of the exterior as immigration, naturalisation, aliens and foreign corporations are placed under the Commonwealth control.

The departments of posts, telegraphs and telephones, naval and military defence, lighthouses, lightships, beacons and buoys, and quarantine are to be taken over by the Commonwealth on dates to be proclaimed, but as the raising and maintaining of any naval or military force are among the powers forbidden to the states, the defences practically fell under federal control at the outset

Among the Commonwealth powers are also included subjects in which uniformity is desirable—such as census and statistics, astronomical and meteorological observations, weights and measures, bills of exchange, bankruptcy, copyright, marriage and divorce; together with coinage and legal tender, these two latter being also among the powers forbidden to the states.

The federal Parliament is empowered to borrow money and impose taxation, and may take over from the states the whole or a proportion of the public debts. The Commonwealth is empowered to acquire with the consent of the states the railways, which are in Australia the property of the states.

The Commonwealth may also accept the government of any territory surrendered by a state, and new states may be formed by subdivision of existing states. Probably these provisions will result in the formation of new states out of the northern portions of Western Australia, South Australia and Queensland. There is nothing which tends more to strengthen a federation than the formation of new states, which from their birth have no allegiance save that towards the central Government. The Dominion has benefited in this manner, and of the United States all but the original thirteen have been "born of the Union."

The tendency of the times towards the extension of the sphere of Government activity has led to the enumeration of such federal powers as conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one state; also for invalid and old-age pensions, and banking and insurance.

Some of the above-enumerated powers, such as customs, defence, posts, telegraphs, lighthouses and quarantine, constitute what are known as exclusive powers; when these are assumed by the Commonwealth, all legislative action concerning them is forbidden to the states. Many of the powers are, however, concurrent, and are capable of exercise both by the Commonwealth and the states, the laws of the latter becoming invalid whenever they come into conflict with the former. In the exercise of these optional powers a considerable amount of latitude exists for the play of the centrifugal and centripetal forces; the formation of an Australian public opinion will result from the union, and the Commonwealth will have the benefit of this in feeling its way into the exercise of its full authority. Should the tendency be in the direction of a closer union, there is a provision for the extension of the power of the federal Parliament by the reference to it of any subject at the will of any state or states. An element of flexibility is thus introduced which materially modifies the degree of rigidity usually inseparable from a written instrument of Government Constitutions, tough yet tractable, give the best promise of long and healthy life; the most deadly foe to organic growth is the atheroma which cannot yield without rupture.

The change of Government is, in some respects, fundamental. A federation differs essentially from a system of parliamentary sovereignty, such as that which obtains under the British Constitution. Being in the position of parties to the compact, no unlimited authority can be placed either in the Commonwealth or the state Parliaments Each is sovereign in its own sphere, but its acts become invalid the moment they transgress beyond the boundary line. Co-ordination, rather than subordination, of function is recognised to be the characteristic of federation The federal authority is built up partly of powers ceded by the Imperial Government, and not heretofore possessed by any of the Colonies, and partly of enumerated powers surrendered by the states; but all the powers retained by the states will be exercised just as freely and independently as before. The Commonwealth has no veto or right of interference over the state Parliaments, which will be relieved of but a small proportion of their previous duties, and will still continue to deal exclusively with such subjects as lands, agriculture, mining, local government, police, education and generally all matters of internal government.

The state governors will receive their appointments as previously direct from the Crown, and it was decided in the Convention without a division that they should continue also to be the direct channels of communication between the states and the Imperial Government. They, in their positions, will be as independent as the Governor-General in his more exalted sphere.

The Commonwealth and state laws will be equally subject to the arbitrament of the High Court, which, as umpire, will decide whether the parties are within their respective grounds. The High Court is to consist of a chief justice and not less than two other justices. The right to trial by jury is incorporated in the Constitution The jurisdiction of the Supreme Courts of the states will continue to exist as at present, but an appeal will lie to the High Court from their decisions.

Any Bill for the alteration of the Constitution must be passed by an absolute majority of each House, or by one House twice, with an interval of three months, and must be referred for approval to the electors. And if in a majority of the states there is a majority of affirmative votes, and if these constitute a majority of all the electors voting, the Bill is to be presented to the Governor-General for the royal assent.

Mr. Luke Fildes, R.A., has, as has already been announced, been commissioned to paint the official portrait of the King The sittings will commence at Marlborough House in May next The picture will be of life size, and when completed some thirty or forty replicas will be made for the embassies and consulates abroad, and also for the colonies.

THE BASILICA CHURCH IN THE ROMAN FORUM.

THE Rome correspondent of the *Globe*, writing on the 8th inst, says:—If we now enter the Basilica itself by its original central doorway we notice that the steps which led to it formerly are wanting, but our eyes are first directed across to the apsis and its dim large fresco of an enthroned Christ, at the other end, some 85 feet distant from us. We also perceive, at the same glance, that the choir and apsis is flanked on each side by a chapel terminal to each of the aisles That on the left is dedicated to SS. Quirico and Jolita; that on the right to SS. Cosmas and Damianus—likewise martyrs of the Diocletian persecution and greatly in esteem as medical saints in the sixth century. It will be recollected that in A D 526 Felix IV. dedicated the tomb of Romulus, son of the Emperor Maxentius, as a church, the first in the Forum, to those charitable physicians.

On each side and in a line with the wall dividing these chapels from the presbytery is observed an angular brick pier, to which adhere considerable portions of the low frescoed screen-walls, which, meeting in a central gate and step to the presbytery, separated it once from the body of the nave. Fragments of the white marble fluted pilasters of this gateway remain *in situ*. Above it an arch united the piers Coming towards us from those respective frescoed piers, and in line with them, at a distance of 2 m. 60 c apart, rise from their brick plinths two grey granite columns in succession, on each side, leading on to similar frescoed angular brick piers, one of which (that on the left) is gone. From these latter piers, towards the central area, again project from the ground remains of the former low wall-screen, which centring (as at the other end), in a small gate, closed in the large quadrangular space where stood or sat the subdeacons and the "infantes" on each side — "decani" and "cantoris." This space was termed "Schola Cantorum." Up the centre of it ran a mosaic path leading to the presbytery, and at each side towards the upper (or southern) end of it stood an "Ambo." A portion of one of these has already been referred to, with its interesting inscription of John VII The piers above mentioned are all Imperial, while the screen-walls are Christian constructions. This entrance to the "Schola" occurred at some 8 feet distance from the central doorway to the Basilica, where we still stand; and we notice that another enclosed space has thus been located in front of us and before it by another low screen-wall of rough brick (also once frescoed), which continued the line of piers and columns up to the wall on each side of us, so that the aisles for the respective sexes were rigidly cut off from the rest of the church In earlier days this other enclosure would have been a "Narthex" for the penitents, and no doubt was so called though its function had ceased.

Turning our attention now to the left (or men's) aisle, we observe its left wall to be centred by an enthroned fresco figure of Christ holding a book in his left hand and blessing with his right. Immediately beneath this projects from the wall a low rectangular reliquary lined with marble. It may once, perhaps, have held a piece of the Cross or some fragment of Christ's vesture. Beside it, either way, runs (in fresco) a white conventional curtain with tassels, recalling to us those which were used instead of actual wall-screens in many early Christian basilicas, hanging from rods. Above this decorative tier, on the left of Christ, succeed a number of Eastern saints—SS John Chrysostom, Gregory Nazianzen, Basilius, Alexandrinus, Cyrillus, Epiphanius, Athanasius, Nicolaus, and Erasmus; while, on the right of Christ, are Popes Clementius, Silvestrius, Leo, Alexander, Valentinus, Euthumius, Georgius, Gregorius, and others, mostly ruined

Above this zone or tier is depicted the story of Joseph, with the banquet in the house of Pharaoh. This zone was succeeded by yet another before the gallery was reached; but the fall of the roof, and gallery with it, must have obliterated this. Yet enough remains to prove that it was a continuation of the same heroic story depicted by artists of the eighth century. Let us now come through a small screen-wall at the head of this aisle, which made a "senatorium" (or space for privileged males) before the terminal chapel was reached, a space of some 12 feet square, from which they could look across to their right over another low screen into the presbytery, and thus could witness the ceremonial.

We enter the chapel by a small door, and become at once aware that it contains the remains of its own original altar—that all four walls are very richly frescoed, and that, above all, it presents a most brilliant fresco of the Crucifixion placed in a rectangular recess (or filled-up window) many feet above the said altar; and, finally, that far above our heads it possesses a vaulted roof, through which also a concrete block of masonry has crashed down. This block still lies on the pavement at our feet. And, first of all, let me describe the fresco of the Crucifixion. The figure of Christ is represented in the (blue) tunic of a deacon and wearing a stole (gold) The feet are nailed separately The arms are extended straight, and the crucified one looks with serenity towards his weeping mother, who is standing at his right, just beyond Longinus—the soldier—who has pierced the side, and is withdrawing his spear. On the other side of the Cross the executioner pushes a sponge at the end of a cane towards the sufferer Beyond him stands St. John the Evangelist. Above the head of Christ is the superscription in Greek letters, and above the arms of the Cross the sun and moon, purposely bedimmed, throw their last rays upon the terrible scene. On the jambs of the recess rise two splendid palm-trees loaded with dates. This picture must henceforth be considered one of the most precious of Christian memorials of the eighth century.

CHICHESTER CATHEDRAL.

THE Archbishop of Canterbury took part on Tuesday in the dedication of the north-west tower of Chichester Cathedral, which has been rebuilt at a cost of just over 8,000*l.* No authentic records are in existence as to the exact circumstances in which the old tower fell, but the disaster is supposed to have happened about the year 1634, the cause most probably being the defective nature of the foundations. Not until the episcopate of the late Dr Durnford were any active steps taken towards the rebuilding of the tower When a fund was started for the general restoration of the cathedral the executive committee found that, owing to the insecurity of the west bay of the nave vault, the rebuilding of the north-west tower was the work which most demanded attention. The late Mr. J. L. Pearson prepared a design for the rebuilding of the tower, which, subject to certain modifications, was ultimately adopted The south side of the tower, forming part of the nave of the cathedral, was intact, although the arches of the triforium and clerestory stages were walled up. All that remained was to carry the same design round the three remaining sides, but there was a good deal of controversy as to the character of the exterior of the building before a satisfactory agreement was arrived at. Messrs. Luscombe & Son, of Exeter, were given the contract for the work, which was carried out in sections, the money for each section being first obtained in subscriptions before the next stage was proceeded with. Mr. Frank Pearson succeeded to the duties of architect on the death of his father The new tower, which resembles in its general character the south-west tower, is about 34 feet square over all, and from floor to ceiling, a height of nearly 100 feet, is open to the cathedral. The work has occupied about 2½ years.

MUNICIPAL BUILDINGS FOR BOSTON.

A SPECIAL meeting of the Boston Town Council was held on Monday night, the Mayor (Ald W T. Simonds) presiding, to consider the advisability of purchasing a site in West Street for the new municipal buildings which it is proposed to erect at a cost of 16,500*l.* The Mayor proposed that a site in West Street, consisting of 1,149 square yards, be acquired, at a cost of 1,149*l.*, and that a contract to that effect be signed. The Mayor stated that the trustees of the Free Library scheme were willing to hand over to the town 560 square yards adjoining the site proposed to be purchased, and also 600*l.* or 700*l.* they had in hand, on the condition that a room for the free library was provided in the new building, and the scheme provided for such accommodation.

Councillor J. Clarke seconded.

Councillor Hand moved, as an amendment, and it was seconded by Councillor Gane, that a poll of the town be taken, to ascertain the views of the ratepayers upon the whole subject before the contract was signed.

On a division the amendment was rejected by thirteen votes to nine, and it was agreed to sign the contract for the purchase of the site.

LANCASHIRE AND CHESHIRE ANTIQUARIAN SOCIETY.

A MEETING of the Lancashire and Cheshire Antiquarian Society was held at Chetham College, Manchester, on the 12th inst Mr. Henry Taylor read the fourth paper of a projected series of seven on the ancient crosses and holy wells of Lancashire He dealt with the Hundred of West Derby, which measures, roughly, 26 miles from north to south, and 30 miles from east to west, its southern boundary being the Mersey. A map exhibited by Mr. Taylor showed the sites and remains of no fewer than 100 ancient crosses. This large number, he said, was due no doubt to the fact that in this part of Lancashire the Reformers never succeeded in exterminating the old Roman Catholic faith Many of these crosses were put up in the thirteenth century, or even earlier, to mark the boundaries of church and other lands, and others were erected as market crosses. The demolition of most of these market crosses was in part due to sheer vandalism, and to the fact that it had been found more convenient in modern times to conduct business in town halls or other buildings where there was protection from the elements. Other crosses were placed near holy wells, of which there are several in the Hundred, justly noted, and still occasionally used for medicinal and healing qualities. A Mediæval well adjoining Lathom Park, dedicated to St. Mary Magdalene, was converted by the impoverished son of the seventh Earl of Derby, at the end of the Cromwellian epoch, into a fashionable spa. The spring dried up when mines were sunk at Skelmersdale. Near Ormskirk there was a remarkable group of crosses. Within a circle four miles in diameter there used to be no fewer than eighteen crosses. Several of these were in existence at the time of the first Ordnance Survey, fifty years ago, but only one complete example remained to-day. The group of crosses appeared to lead in three lines from Scarisbrick Priory to the churches at Halsall, Ormskirk and Burscough Priory, and until quite recently they were used for devotional purposes in Roman Catholic funeral processions, the mourners stopping at the site of every cross to offer prayers for the dead. Another noticeable group of crosses was found near the ancient parks of Ince Blundell, Little Crosby and Sefton. The landowners in this part of the Hundred had been Roman Catholics for many generations, and the crosses had been well attended to An ancient cross standing in the Little Crosby Park was said to have been moved there for safety from the village green at Great Crosby. At its foot the proclamations of the manorial court were made, and the ancient custom of flowering the village cross was kept up on St. John Baptist Day so late as the year 1708 In the twelve miles of country between Liverpool and Warrington the remains or sites of upwards of twenty ancient crosses were recorded on the Ordnance maps Very few of these remained, but some had been restored or rebuilt.

EDINBURGH ARCHITECTURAL SOCIETY.

A MEETING of the Edinburgh Architectural Society was held on the 10th inst. in Dowell's Rooms, Edinburgh —Mr. A. E. Balfour Paul, president, in the chair—when Mr. James A Arnot gave a lecture entitled "Notes on an Architectural Tour in Belgium" A historical sketch referring to the rise of Flanders, commercially and politically, and to the effect of Spanish rule on the country, was given, and this was followed by a description of the ecclesiastical and secular buildings and domestic work. Reference was also made to the present-day architecture in Antwerp, Bruges, Ghent, Brussels and Malines. A number of limelight illustrations were shown.

TESSERÆ

The Catacomb Inscriptions.

THE inscriptions which have been found in the Christian catacombs are not inferior in importance to any by which the pages of pagan history have been illustrated, and from the first moment of their discovery, therefore, their preservation has been an object of interest and anxiety As long ago as the middle of the fifteenth century, Eugenius IV. issued a very severe edict forbidding, under heavy penalties, the destruction or mutilation of these remnants of Christian antiquity, and this prohibition was renewed both by Nicholas V. and Calixtus III., who were his immediate successors. About fifty years afterwards, in the reign of Leo X. and under his patronage, Giacomo Mazochi published the first collection of inscriptions which had ever been printed, and through a letter written by the celebrated Cardinal Bembo the same Pontiff placed all objects of Christian interest, both inscriptions and others, as many as from time to time might be discovered, under the special charge of the painter Raphael; moreover, he desired him to take particular care in the building of the basilica of St Peter's, which he was at that time superintending, that the *res lapidaria* should receive no injury. A large majority are, as we should naturally expect, written both in the Latin tongue and according to the Latin alphabet, whilst not a few are written in the Greek language and with the Greek letters; in others, on the contrary, although the words are Greek, the letters are often Latin, or *vice versâ*, the writing is Greek the language is Latin, and lastly there are instances in which both the alphabets and the languages are strangely mixed together.

The Artist's Office.

The enthusiastic artist is one who is so profoundly sensible of the nobleness and excellency of his calling as to value it above all the earthly, money getting, or mechanical occupations which are the lot of the vast majority of mankind, and still more above the childish frivolities of fashion and the vulgar enjoyments of the wealthy and the proud. He is enthusiastic, in that he carries about with him at all hours a consciousness of the greatness of the trust which is imposed upon him, of the eternal goodness and purity of the truths which it is his vocation to express to his fellow-creatures, and of the intimate and essential connection between the powers of art and the highest portion of our human nature. He is enthusiastic in the pursuit of his profession because he perceives that art is, as it were, the link between the visible and the invisible, between the immaterial spirit of man and the material universe in which he is placed, between that eternity which is to come and that time which is now present. Possessed with such a consciousness, he is subject to no more disturbing influences in the practical action of his powers in his everyday life than a devout Christian feels under the operation of those eternal and overwhelming truths which are the foundation of his religious existence. It is the very office of the artist to harmonise all the facts of existence, whether bodily or mental, spiritual or visible; it is his duty to bring the seen and the unseen to bear upon one another in such a manner as to make each the complement of the other, and to reduce to order that moral chaos which has resulted from the disturbance of the original laws upon which this world and its inhabitants were created. If in any way whatever the artist aims at oddity and eccentricity—if consciously or unconsciously he runs counter unnecessarily to the recognised customs of his time—if under the pretence of the irresistible power of the inspiration which sways his whole being he makes a fool of himself, or affronts his friends, or neglects his family, or behaves like a grown-up child—so far he is no true artist at all; he is flying in the face of the very principles he is summoned to enunciate, and creating a disturbance in that state of existence in which he is called to be a teacher of peace and love and self-denial.

Romanesque and Gothic.

Whatever be the one accident which gave birth to the Pointed architecture of the thirteenth century, certain it is that, as if by magic, a few years called into life a system of design in building which is one of the noblest triumphs of the genius of man The vigorous life of the nations of Europe who in the eleventh and twelfth centuries were struggling into civilisation, the Lombards, the Germans and the Normans, for a time strove to employ the details and in a certain degree the rules of Classic architecture (so far as they comprehended them) for their own religious and civil purposes. Those solemn and gigantic structures which in different countries are termed Byzantine, Lombard or Norman, were the work of a mind imbued with a deep sense of the value of art in the expression of its ideas, and of the necessity of a bold attempt at the realisation of certain principles of art rather than at the servile reproduction of the exact features of another epoch. Hence it is that no man can enter the vast Lombard or Norman cathedrals, whatever be his individual taste or feeling on architectural subjects, without being impressed with a sense of their deep solemnity and of their right to the title of genuine works of religious art, or without a high degree of veneration for the lofty and energetic minds which raised and adorned those stately piles. They seem the home of the generation that fought at Acre and at Jerusalem. When the Pointed arch was introduced into this system of building the key to the new form of the art was discovered. Then came a period in which, as with Giotto and his followers, the laws and forms of Gothic architecture were not so much invented as developed: at length the architect had discovered a principle of design which was eminently adapted both to the nature of the material with which he worked and to the rich and gorgeous, but eminently devotional, spirit which he was called upon to embody.

The Artist's Place in Nature.

The artist dwells in no remote, subterranean or celestial kingdom, but in the kernel of nature. He is not solitary, but, like an enchanter, alone—awfully alone with the conjured-up spirits, and thus in the most dignified and fullest society of all the living and the dead. He continues to be a man, subject to all the laws of waking and sleeping, of hunger and thirst, and to all the conditions of existence as strictly as a day labourer. He has not nor can he subject himself to these spirits, for his own spirit is greater than all. He does not build his marvellous palace on the wrecks of this spell-like nature, but he adopts all her laws, even the smallest and most delicate, in his ideas and images. If he would make himself intelligible and valuable to men, then he must invent and create according to the most universal laws, which the smallest may understand and recognise, and his power is not derived from nature to be used against nature, but with her, and it is his life and his glory to follow her as far and as faithfully as it is possible for him to follow her. For the human race must not receive through his means a contorted, false, illusive nature, but everyone if possible must see his own heart's kernel that he may understand the miracles which were not so clear to his own contemplation. In this way alone he raises also to the all-powerful mother the insipid, unthinking and passive, whose senses are all bound down by the exigencies of life. Through him they see that nature is not so common as they are common; through him, in fine, they behold the whole beauty of the world, the whole depth which is in the mind of man, and which the initiated bring to light. But when the artist descends to search out the treasures of the deep, still he is like the miner, who has his house and his wife above in the sunshine.

Oriental Influence on Spanish Art.

Oriental art developed itself in Spain under two different systems, varying one from the other. In the first epoch, from the eighth to the twelfth century, more or less, Byzantine ornamentation is constantly reproduced, and mosaics and other modes of decoration are employed which were used in the churches in the East, and it is only the profusion of horseshoe arches and Cufic inscriptions which give a special character to this kind of ornament. The cathedral of Cordoba is the best specimen of this style. In the second period—that is to say, from the thirteenth century until the end of the fifteenth—the Arabian ornamentation assumes a completely distinct character, and it is not easy to determine whether the transition has been operated within the locality, or whether these forms came direct from the East, as appears more probable. At that time a new style was created at Granada, far richer and more profuse although the materials used were poorer. The geometrical modelling applied to flowers and plants, in combination with straight lines, and the system of pendentives with stalactite details, constitute the chief base of this ornamentation, which, with an immense variety, covers the walls and ceilings of the palace of the Alhambra. Besides these two styles peculiar to the Arabs, there existed a third, known as Moorish or Mudejar. The Mudejares were the inhabitants of Moorish towns which fell into the power of the Christians, and were allowed to continue their religious rites and customs. This style is a mixture of Christian and Moorish elements, which is more frequently met with in Spain than on any other soil, and has been used simultaneously in architecture and objects of decorative art in Spain; and not only did the Christians give their work to Moorish workmen, or copy their style, but the Jews also applied to them when they built their synagogues, and thence result the two curious examples of this architecture at Toledo, the Transito and Sta Maria la Blanca, unique of their kind.

The First French Revolution and French Industries.

The Revolution of 1789 seemed to threaten a terrible blow to the ornamental manufactures of the country. The great proprietors, the aristocracy, who alone till then had supported these industries, were partially ruined; the revenue of the landholders instead of being almost all expended in the cities remained in the hands of the small agriculturists. In fact, of 150,000,000 francs of revenue derived from landed property spent in Paris before the Revolution, scarcely half that sum was expended in 1800. Many asked themselves in good faith what had become of those arts and industries created by the inspiration of the great artists of the monarchy to satisfy the elegant and refined tastes of the higher classes. They thought that there was no other means to revive the arts than to return to the past; but the people that had acquired the free exercise of their strength and of their faculties knew how to preserve the glorious heritage which had been transmitted to them from the ages of Francis I. and Louis XIV. They well understood that a people which had won such honours in the fine arts could easily attain the first rank in the industrial pursuits connected with them. The National Assembly, not satisfied with having popularised science and education, accumulated in the Louvre the treasures of art of past ages, and every succeeding Government has added to this collection The institutions of Sèvres and of the Gobelins, which hitherto had served but to satisfy the luxury of the court, became establishments of national utility and importance. The encouragement given to the fine arts and the foundation of schools of drawing by the manufacturing towns served to spread good taste more and more amongst the manufacturing classes. In these industries art was applied to the cheapest articles without losing anything of its own higher character. The prosperity which the masses began to enjoy—a greater independence resulting from the contact of all classes—rendered almost necessaries productions which before were found in use only amongst the opulent. Since 1830 Paris especially, that grand centre of the intellectual unity of France, daily renders the productions of art more accessible to the people by the publication of engravings, lithographs and numerous reproductions in several materials. It is, in great part, to such means that French industry owes the elegance which forms its distinguishing characteristic. To the happy combination of the fine arts and the sciences its owes its preeminence. By the brilliancy of colours, by the excellence of form, by the precision and correctness of design, the value of mere material has been greatly enhanced. This perfection of the "ensemble" at which French industry aims, is, however, the result of the efforts and perseverance of several generations. Artistic taste which previously was directed only to objects of high value, descends in the present day to decorate the productions of the most modest branch of manufacture. The professional education which penetrates into the working classes gives them more and more the independence and the emulation which always accompany that intelligent love of art, without which there is no real progress.

Symmetrical and Picturesque Beauty.

All beauty is the result of harmony, which is not a simple quality, but, as Aristotle defines it, "the union of contrary principles having a ratio to each other." Harmony thus operates in the production of all that is beautiful in nature, whether in the combinations, in the motions, or in the affinities of the elements of matter. The contrary principles to which Aristotle alludes are those of uniformity and variety, for according to the predominance of the one or the other of these principles every kind of beauty is characterised. Hence the difference between symmetrical and picturesque beauty—the first allied to the principle of uniformity, in being based upon precise laws that may be taught so as to enable men of ordinary capacity to produce it in their works—the second allied to the principle of variety often to so great a degree that they yield an obedience to the precise principles of harmony so subtilely that they cannot be detected in its constitution, but are only felt in the response by which true genius acknowledges their presence. The generality of mankind may be capable of perceiving this latter kind of beauty and of feeling its effect upon the mind, but men of genius only can impart it to works of art. Throughout the sounds, forms and colours of nature these two kinds of beauty are found not only in distinct developments, but in every degree of amalgamation. We find in the songs of some birds, such as those of the chaffinch, &c., a rhythmical division, resembling in some measure the symmetrically precise arrangements of parts which characterises all artistic musical composition; while in the songs of other birds and in the other numerous melodies with which nature charms and soothes the mind, there is no distinct regularity in the division of their parts. In the forms of nature, too, we find amongst the innumerable flowers with which the surface of the earth is so profusely decorated an almost endless variety of systematic arrangements of beautiful figures, often so perfectly symmetrical in their combination that the most careful application of the angleometer could scarcely detect the slightest deviation from geometrical precision; while, amongst the masses of foliage by which the forms of many trees are divided and subdivided into parts, as also amongst the hills and valleys, the mountains and ravines, which divide the earth's surface, we find in every possible variety of aspect the beauty produced by that irregular species of symmetry which characterises the picturesque.

The Figure and Greek Architecture.

The full power of the human form was keenly appreciated by the Greeks, who were thereby induced to seize every occasion of displaying it in connection with their architecture. Art as treated by the Greeks, let us not call it Greek art, for their style, the most refined, may be equally that of all nations, based as it is upon principles unchanged and unchangeable; art thus treated, that is, rendered independent of local circumstances, such as climate, laws and customs, becomes by the intelligible character which it thus acquires comprehensible to all, equally expressive in all times and places, and so extends its sphere of utility, acquiring thereby the title of liberal, thus widely differing from local art, which, indifferent to the portrayal of sentiment and passion, aims at the mere representation of the reigning fashions, displays man their victim, and so renders him an enigma in the eyes of posterity. The remains of Greek sculpture afford a striking exemplification of the enlightened mode of treating art. In the Panathenaic frieze, for instance, the sculptor, penetrating into the philosophy of his pursuit, which consists not in servilely representing a scene, but in presenting to the beholder objects of high interest, has given us the beau-ideal of the human race, and by gracefully casting aside the garments, has, in thus yielding to nature her rights, blended truth with his subject, and so invested it with real dignity. It is owing to the ample instruction afforded through the medium of the Classic style of art that the remains of Greek and Roman antiquity are treasured up by nations, whilst those of the Middle Ages and other epochs find favour only here and there in the eyes of a lover of curiosities. Architecture, to possess true sublimity of character, should combine with painting and sculpture, and to form an harmonious union with those arts, must derive its origin from the principles upon which those arts are based, and since the study of the human form constitutes the essence of painting and sculpture, so must it in some way necessarily form the basis of the beautiful in architecture. Such a system as that sought for have we received at the hands of the Greeks, a nation chosen, it would seem, to direct our mental vision towards the sublime in all those arts the pursuit of which so exalts and dignifies the social state. In investigating the system of architecture practised by the Greeks, we trace its origin to the study of the human form; for whilst we perceive that the mouldings, those parts that give life and movement to a building, are composed of lines analogous to those that bound the human body, we are made sensible that the contemplation of no other object in nature could have built up in the mind so exquisite a system of proportions as that manifested in the three Greek orders of architecture. Their aspect fills the mind with delight; they exhibit no exaggerated quality, but rather rivet attention by the display of a well-poised combination of many excellences, all tending, under the guidance of marked propriety of thought, to the realisation of grace and dignity.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

The Victoria Memorial.

Sir,—At the business meeting of the R.I.B.A. on Monday last, I was only able to direct the attention of those present to the general question which will be brought formally before the members at a special meeting (for which I have given due notice) at an early date to be fixed by the Council at their meeting next Monday.

I will in due course inform you of the date fixed, so that we may have a full meeting and pass, unanimously I hope, resolutions having for their object the throwing open of this Memorial to the competition of every architect, sculptor and artist who may desire to send in schemes.—I am, yours obediently,
Wm. Woodward.

13 Southampton Street, Strand:
April 18, 1901.

Standardising Size of Bricks.

Sir,—A conference between representatives of the Institute of Civil Engineers, the Royal Institute of British Architects, and representatives of brickmakers will be held at 4 p.m. on Friday, the 26th inst, at the Building Trades Exhibition at the Royal Agricultural Hall, Islington, to discuss the question of standardising the size of bricks. The following is the standard suggested by the two institutions:—

1. The length of the brick should be double the width, plus the thickness of one vertical joint.

2. Brickwork should measure four courses of bricks and four joints to a foot.

Joints should be ¼-inch thick, and an extra 1-16th-inch, making 5-16th-inch, for the bed-joints, to cover irregularities in the bricks. This gives a standard length of 9¼ inches, centre to centre of joints. The bricks to be measured in the following manner:—Eight stretchers laid square end and splay end in contact in a straight line to measure 72 inches; eight headers laid side by side, frog upwards, in a straight line to measure 35 inches; eight bricks laid, the first brick frog downwards and then alternately frog to frog and back to back, to measure 21½ inches. This is to apply to all classes of walling bricks, both machine- and hand-made, and facing bricks.

The proposal to arrange a definite standard for the size of bricks is one which should meet with the approval and support of all who are interested in sound brickwork, it being impossible, with the varying sizes of bricks as at present made, to keep good sectional bond. It is hoped that a resolution will be passed at this conference which will establish a standard as suggested.

At the meeting statements will be made as to the standards observed in America and Germany. All who are interested in the subject of brickwork are invited to attend.—Faithfully yours,
H. D. Searles-Wood,
Hon. Sec Science Committee.

The Royal Institute of British Architects, Standing Committee for Science, 157 Wool Exchange, Coleman Street, E.C.: April 16, 1901.

The Exhibition of modern illustration, now being held in the Galleries of the Indian Section (Imperial Institute Road) of the Victoria and Albert Museum, will be closed on May 4 next.

GENERAL.

The Victorian Ministry has offered the Federal Ministry a choice between the Parliament Houses, Melbourne, and the Exhibition building as a temporary home for the Commonwealth Parliament. Mr. Barton has accepted the former. The Cabinet is taking preliminary steps for fixing the federal capital.

An Imperial Gallery for painting, sculpture, and architecture is to be erected in Prague for the benefit of both races in Bohemia, the institution to become ultimately the property of the kingdom of Bohemia.

His Majesty, on the recommendation of the Secretary for Scotland, has been pleased to approve of the appointment of Mr. T. Hudson Beare, at present Professor of Mechanical Engineering at University College, London, to the chair of engineering in the University of Edinburgh, in succession to the late Professor Armstrong.

A Ship of the Vikings has been discovered by fishermen at low tide at Satrupholz, near Kiel. She is about 13 feet long, 1½ foot broad, and consists of a hollowed-out oak trunk.

Tunbridge Wells is about to erect a theatre which will cost 35,000*l*. Towards this amount 30,000*l*. has been subscribed, principally by the inhabitants.

The Exhibition of Spanish Art at the Guildhall will not be opened until Monday, the 29th inst., instead of next Monday, as had been arranged. This is owing to the delay in the carriage of certain important Spanish pictures from abroad. The free admission of the public will commence at 10 A.M. on Tuesday, the 30th inst. The gallery is to be open on Sunday afternoons.

Mdlle. Dosne, the heiress of Thiers, has presented to the Marseilles Academy the house in which he was born for a Thiers museum. She also bequeaths an annuity for the expense of maintenance and the adjoining house for occupation by the Academy.

The Wesleyan General Chapel Committee has sanctioned the erection of five new chapels and sundry cases of enlargements in various parts of the country, which, with new organs and ministers' houses, will involve an estimated outlay of 50,000*l*.

The Archbishop of Canterbury has consecrated the private chapel in the new archiepiscopal palace at Canterbury. The new chapel has been erected from designs by Mr. W. D. Caroë, architect to the Ecclesiastical Commissioners, by Messrs. John Barker & Co., of London, contractors for the alterations and additions to the palace. There are two rows of stalls on each side of the chapel, which, like the panelled roof, are carved in fumigated oak, and on the ends of the stalls are figures of the archbishops from St. Augustine to Dr. Benson.

An Exhibition of posters has been opened in the Palais des Beaux-Arts at Monte Carlo, comprising works which were produced between January 1, 1898, and December 31, 1900. The visitors are expected to vote for the most interesting example, and the artist who gets the majority of the votes will gain a prize of 2,000 francs.

Mr. Joseph J. Tylor, the archæologist, has died. Though by profession an engineer, Mr. Tylor had a well-merited reputation among specialists in Egyptian archæology. He chiefly expended his time in giving exact reproductions of hieroglyphic inscriptions by means of enlarged photographs, these being published in his series, "Wall Drawings and Monuments of El Kab."

M. Fremiet's group of St. George killing the Dragon, which was in the International Exhibition, has been purchased by the City of Paris.

Sir Edward Poynter (president) and Mr. F. A Eaton (secretary) had the honour of being received by the King at Marlborough House on Tuesday, to whom they presented an address from the Royal Academy, and afterwards submitted to his Majesty the business of the institution.

The Archbishop of Capetown, who is at present in England, is desirous to see a cathedral worthy of the Empire erected at Capetown, which might be a memorial to soldiers of all ranks who have fallen in the war. Mr. Cecil Rhodes has given 3,000*l*.

Mr. Thomas Spencer, of the firm of John Spencer & Sons, of Newburn Steelworks, Newcastle-on-Tyne, who died on Friday in Brussels, was well known for his liberality to educational and ecclesiastical funds. When the Bishopric of Newcastle was created he contributed 10,000*l*., and recently he gave a similar amount towards the establishment of a residentiary canonry in Newcastle Cathedral. He also gave 15,000*l*. for the restoration of Hexham Abbey Church. Numerous other churches have been assisted by him.

Mr. J. Kendrick Edward read a paper entitled "Warm-air Heating Apparatus and the Building Preparations necessitated" at the last meeting of the Glasgow Architectural Craftsmen's Society.

Professor Begas is to execute the statue in Carrara marble of William II. to be placed at the Pantheon of Barmen-Ruhmeshalle.

A Committee has been formed in Austria for the erection of an international memorial to those who fell on the field of Austerlitz.

A Mosaic has been discovered in Megalopolis representing the figure of a goddess with a mural crown on her head and a cornucopia in one hand. Several birds surround her. It is anticipated that other works of art will be found in the same place.

M. Ernest Wauters, who has just finished a portrait of Princess Clémentine of Belgium, will go to Berlin to paint one of the Emperor of Germany.

The Time for sending in designs for the Houses o Parliament competition, Western Australia, has been extended to May 14. The original date was April 16.

The Italian Government are endeavouring to bring about the restoration to Italy of certain very valuable Gobelins tapestry at present hanging in the imperial castle of Schoenbrunn, which it is alleged the Austrian Government appropriated from the ducal palace in Mantua in 1866.

Baron Marcello Spinelli has discovered further evidence relating to the ancient city of Suessolo, near Naples. Among the remains unearthed are the foundations of two public edifices of large size.

Lord Currie has opened the British Archæological School in Rome. The ceremony was attended by representatives of various countries, who expressed their best wishes for the success of the new institution.

The Memorial-stone of the new promenade being constructed at Aberystwyth at a cost of 12,000*l*. is to be laid on May 28.

The Ecclesiastical Commissioners are about to rebuild their Lambeth estate, which at present comprises seven or eight streets of old slum property. The idea is to close two of the streets, and to have a recreation-ground in the midst of the rebuilt estate, which is to house 250 tenants.

Mr. William Osborn, who was known in Dublin as a painter of animals, died on Saturday last. For over forty years he was a member of the Royal Hibernian Academy.

An Appeal is being made by the authorities of the Alexandra Palace for help to make it a free picture gallery, a free museum, a free exhibition of inventions, models and industries, a free focus of all that is educational and refining.

Bishop Barry has presented a portrait of his father, Sir Charles, to the National Portrait Gallery.

The Council of University College, Liverpool, consider that a university should be established in that city, and that a committee be appointed to consider and report on the whole question, with power to make inquiries and to communicate with other bodies.

The late Mr. John H Pease, of Newcastle-on-Tyne, has left to that city his collection of the works of Thomas Bewick, the wood-engraver, who served his apprenticeship and had a shop at Newcastle.

The Library of Heidelberg University has acquired twenty-seven sheets of a Septuagint Code, written in uncials, of the sixth or seventh century, on papyrus, containing the Alexandrinian translation of Chapters iv. to xiv. of Zechariah, and Chapters i. to iv. of Malachi.

M. Verestchagin, the great Russian painter of war scenes, has returned to Moscow after a sojourn in the Philippine isles, where he has been collecting materials for some new pictures.

A Report has been prepared for the Chelsea Borough Council by the public baths committee, accompanied by a recommendation to the effect that new public baths be erected on a site acquired by the late vestry, adjoining the town hall. The scheme includes the provision of about 100 private baths and three swimming-baths, the largest being 100 feet by 35 feet, whilst one, 60 feet by 25 feet, will be reserved for ladies, for whom about fifty private baths will also be provided. The cost of carrying out the scheme, exclusive of the price of the site, is estimated at between 60,000*l*. and 70,000*l*.

The ancient village cross which stands in the churchyard at Aldford, near Chester, having been restored in memory of the late Duke of Westminster, was dedicated on Easter Eve. The restored cross stands on the original worn stone steps, and consists of a shaft of beautiful proportions, some 11 feet high. The material used is Runcorn stone. The design has been copied from the fifteenth-century cross in Betterley churchyard.

A New Baptist church at New Prestwick, in the burgh of Ayr, to take the place of a hall which has hitherto been used as a church there, has been completed, and was opened for service on Sunday. The edifice has a neat ecclesiastical appearance, and is seated to hold 350 persons.

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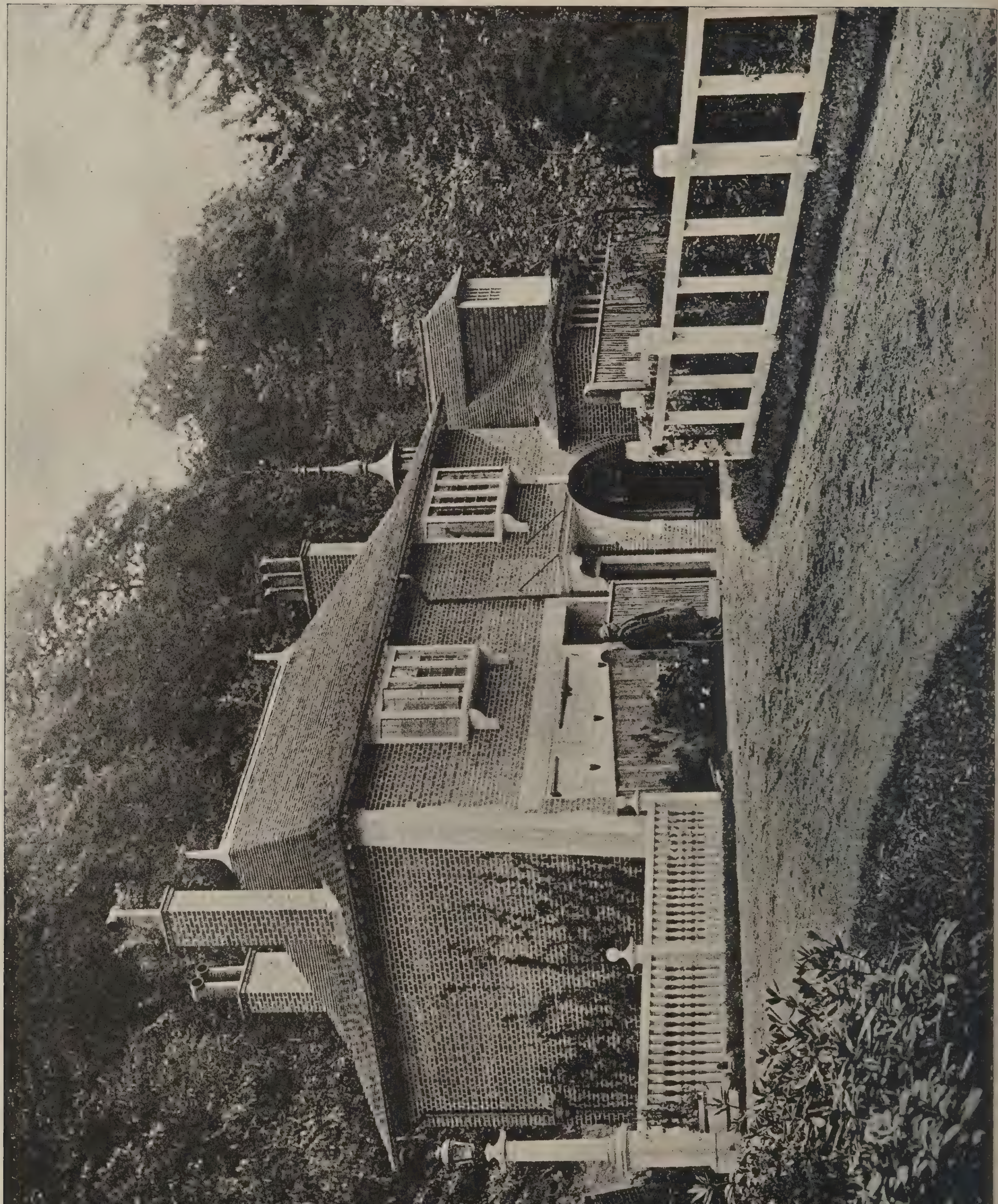

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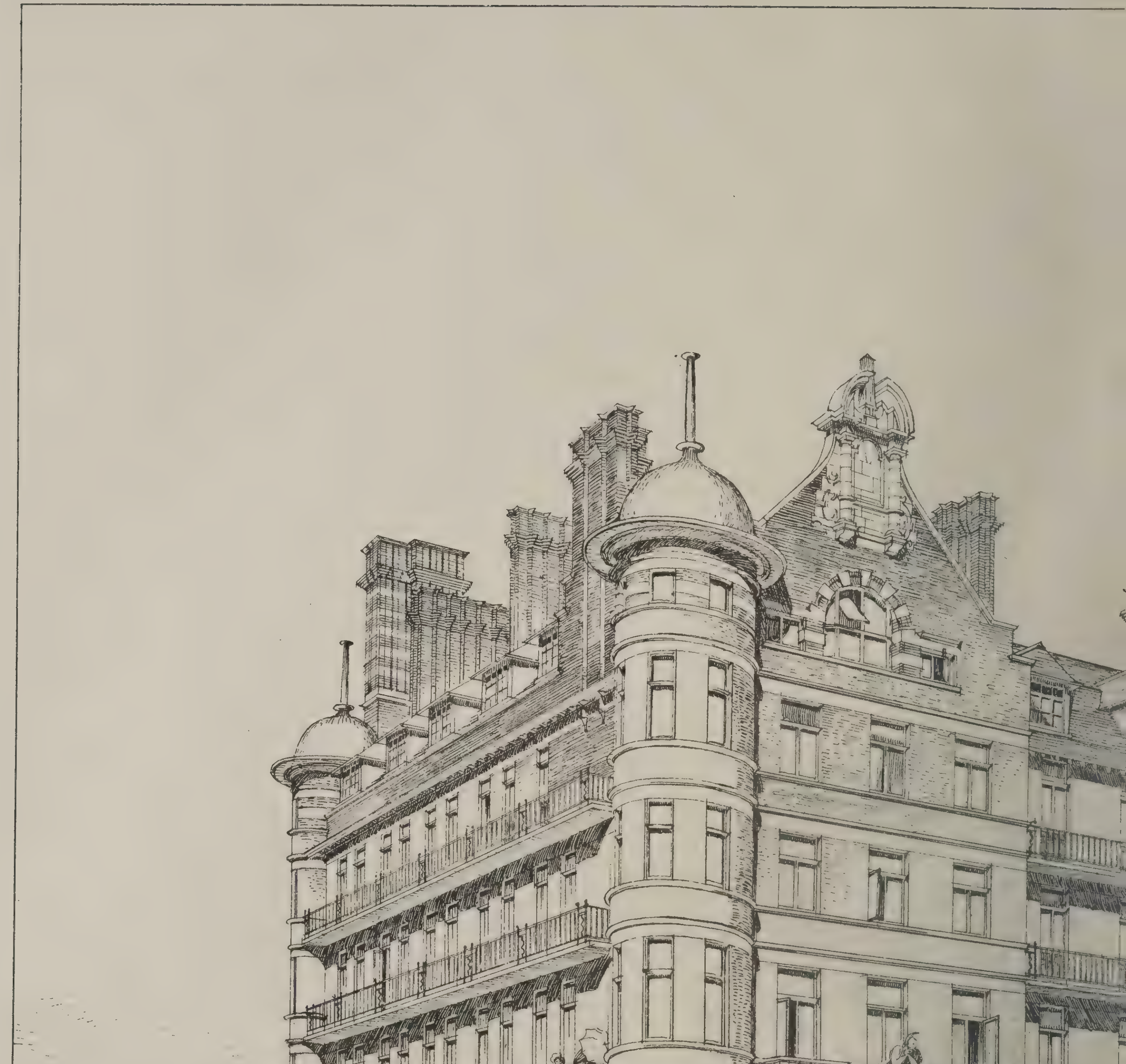

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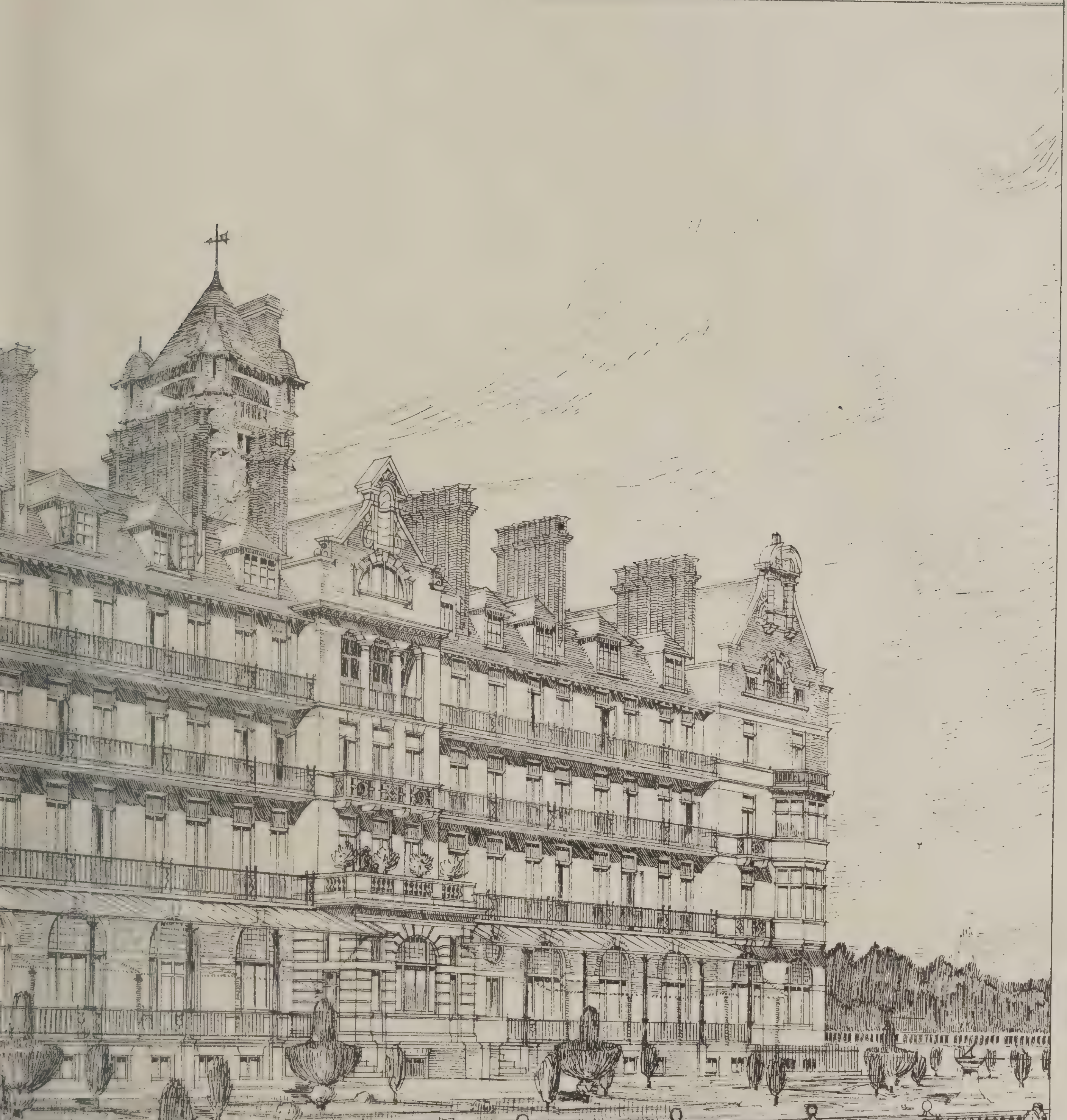

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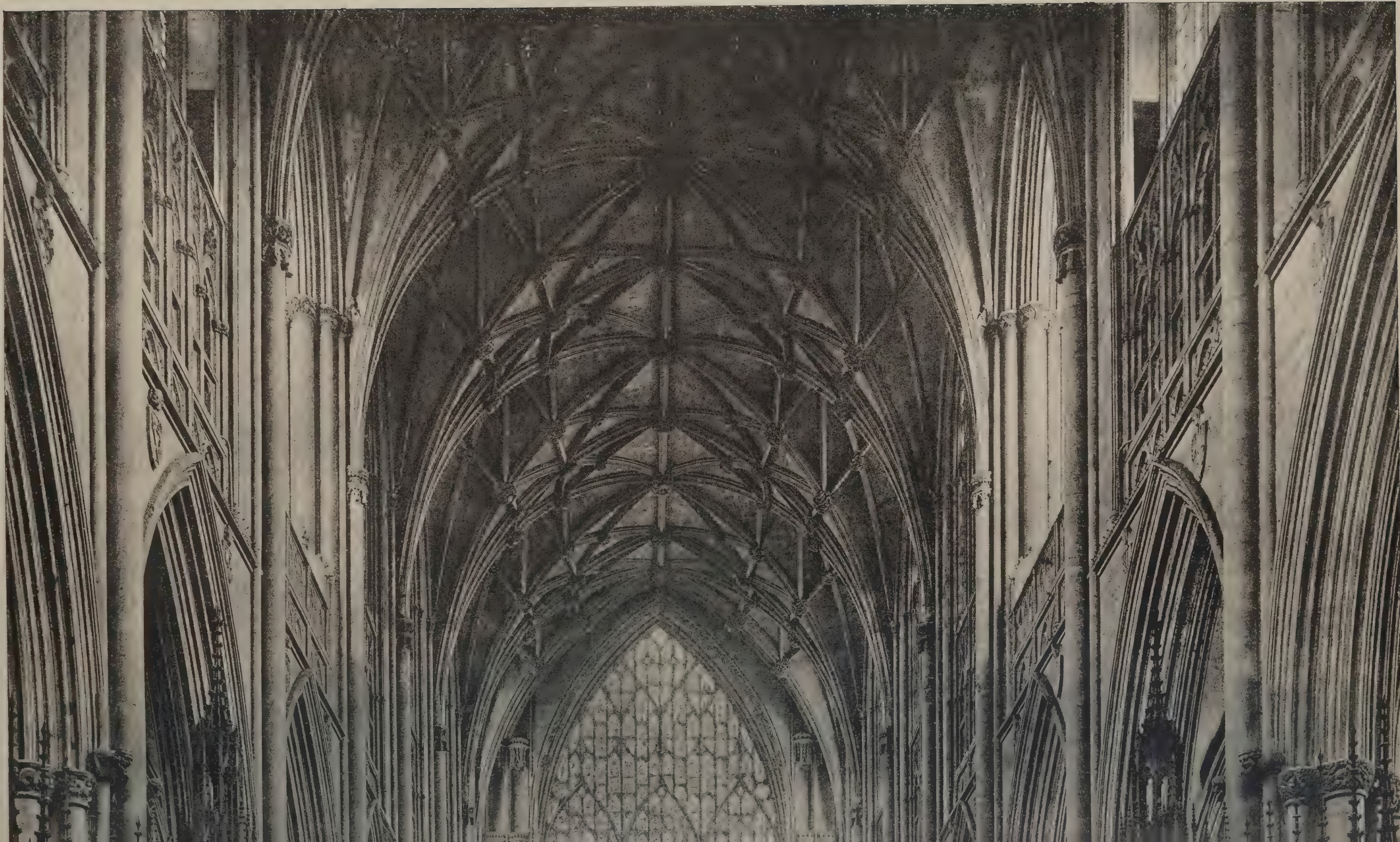

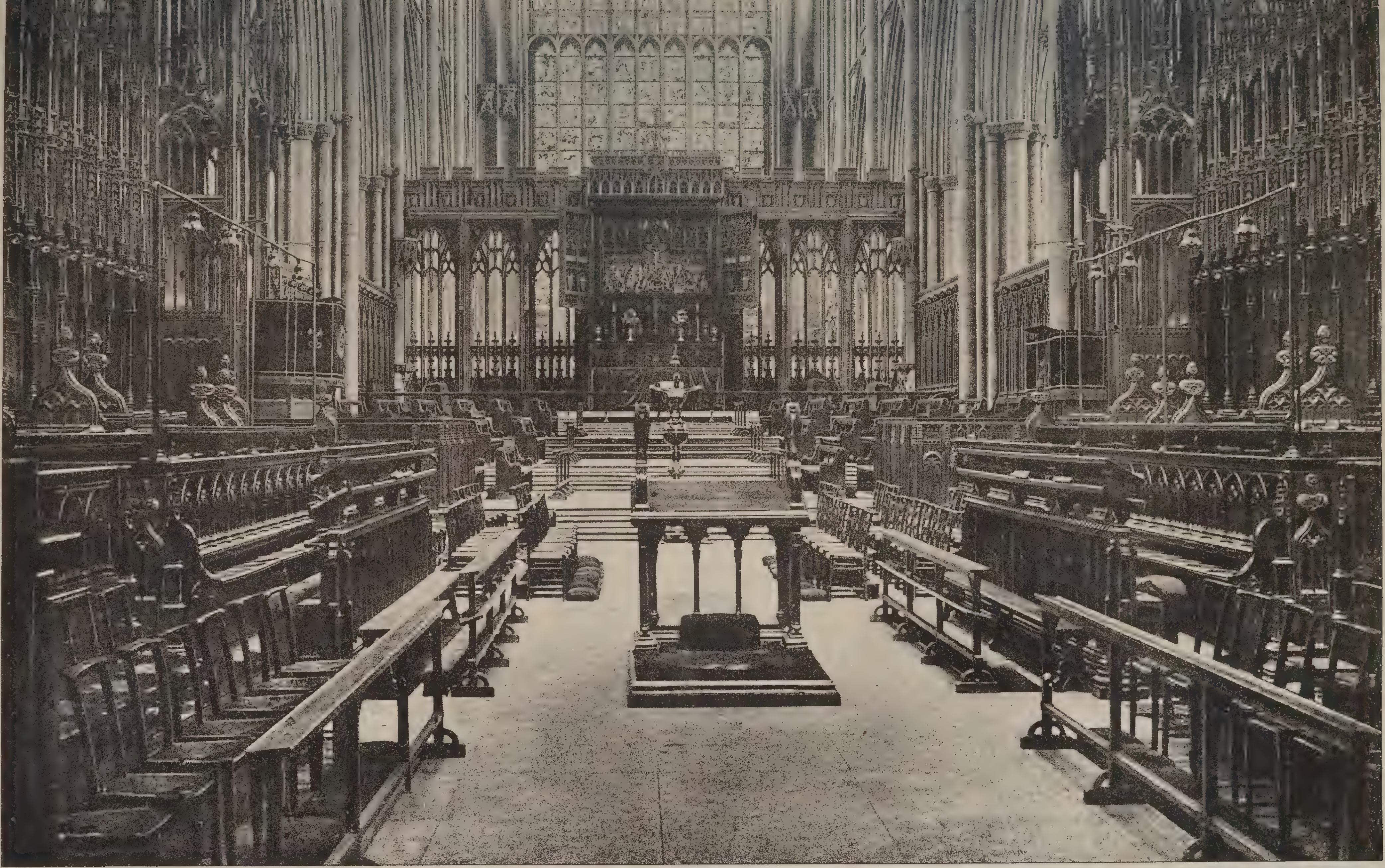

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Cathedral Series, No. 330.—York Minster: The Choir, Full Length to East Window.

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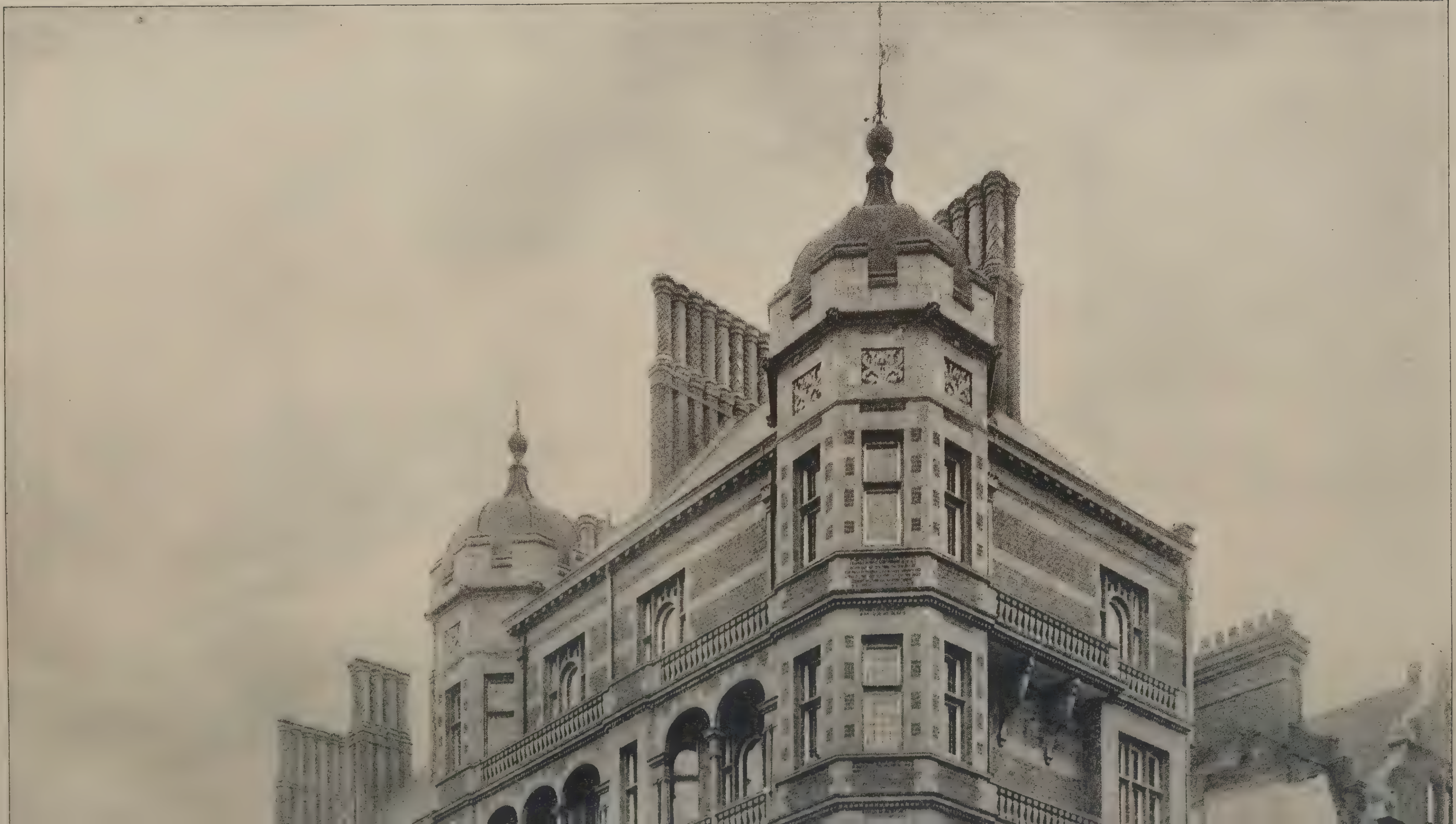

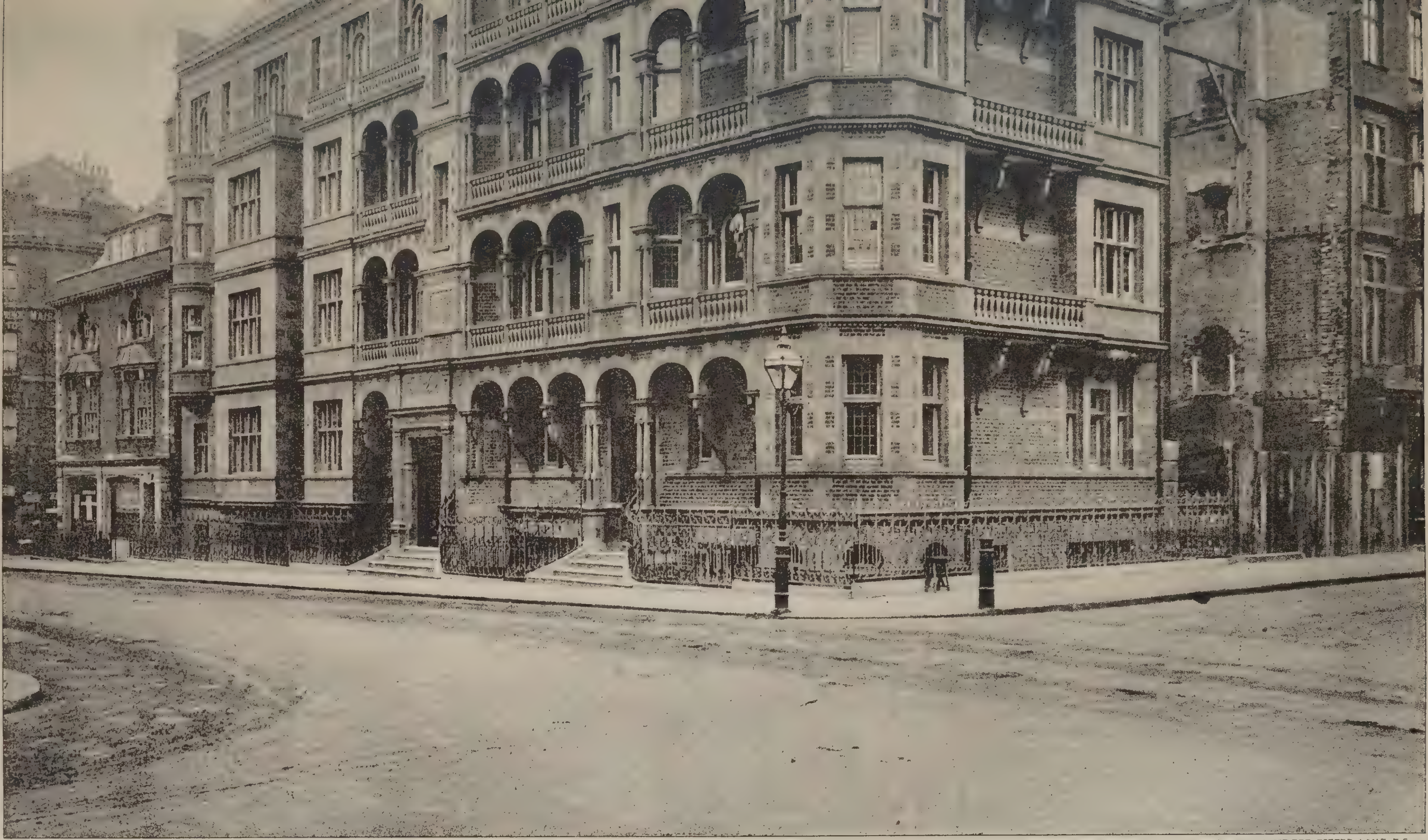

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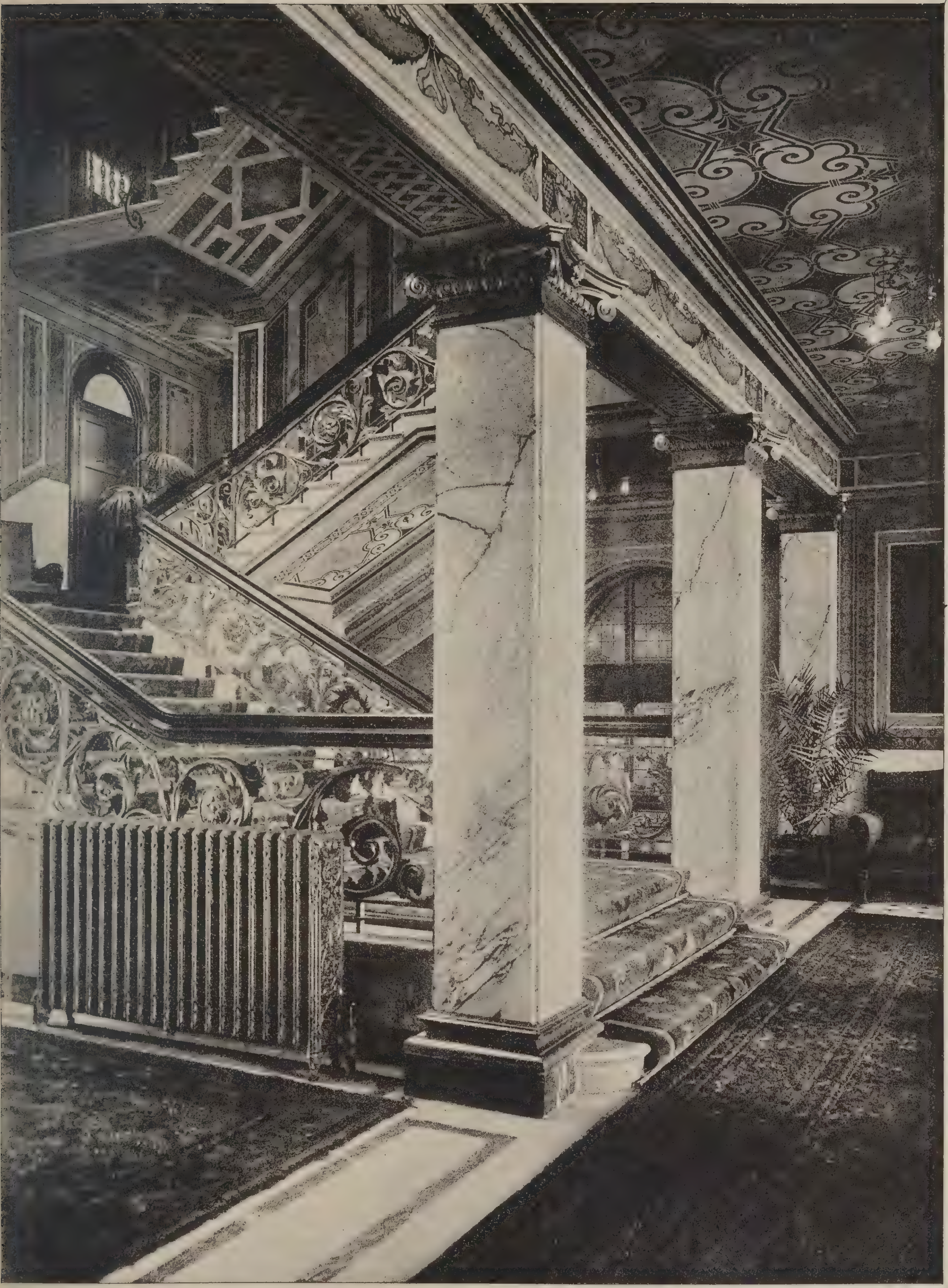
HOUSE IN HARLEY STREET AND WIGMORE STREET.

R. J. WORLEY, Architect.



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ROYAL HOTEL, CARDIFF: STAIRCASE.

R A. BRIGGS, Architect.

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The Architect.

THE WEEK.

It is a common impression every year that an exhibition of the New Gallery does not correspond with the idea of it which is obtained at the first glance round the galleries. This year is no exception. The peculiarity may be partly owing to the music and dancing license possessed by the directors. The pictures may not be expected to receive closer criticism than would be bestowed on festive occasions. There are also fatalities or something like them about some of the pictures which are shown. Mr. Watts, for instance, is one of the benefactors to the gallery, and his *Greed and Labour* is his most remarkable contribution. We see, as it were, Shylock and Hercules side by side, but, owing to some defect in foreshortening, the right arm of *Labour* appears to be maimed and unequal to the load which it supports. Another great artist who exhibits is M. Benjamin Constant: his portrait of Mr. W. B. Beaumont is a marvellous suggestion of vitality. But from the treatment of the light and shade the head does not seem to be symmetrical. There are more than the usual number of imitations of ancient art and of modern artists, like Sir E. Burne-Jones, but who can believe there is any sincerity in such productions? The most satisfactory works are those which the patrons of the gallery are likely to consider as commonplace. Mr. Hallé has a series of girls' heads all staring towards the spectator, and bearing different titles, but they are so unaffected, they acquire extraordinary interest. Then there are such straightforward works as Mr. Collier's portrait of *Rudyard Kipling, Esq.*; Sir George Reid's *Earl of Stair*; Mr. Brough's *Mrs. Milne*; Mr. Beadle's *Biddulphsburgh*, a war-scene in a new style; Sir J. D. Linton's *Casket Scene* from the "Merchant of Venice," which differs in arrangement from the ordinary representation. Mr. Napier Hemy's *Counting the Catch* has a rough vigour which is pleasing, and Mr. Frank Brangwyn's *Old Kew Bridge*, if it should survive, will puzzle the engineers and contractors of a later time.

Some weeks ago we published a reproduction of one of the four panels in the Glasgow Municipal Buildings. The artist was Mr. Roche. It represented the legend of St. Mungo, the patron saint of Glasgow, taking the ring out of the salmon's mouth. Two more wall-paintings were unveiled last week, and as the fourth by Mr. Henry was unveiled some time ago, the decoration of the banqueting-hall may now be considered as completed. The works were carried out under the direction of Mr. William Leiper, R.S.A. One of the two new pictures is the work of Mr. E. A. Walton. It is a representation of Glasgow Fair in the fifteenth century. In the central foreground are two restive and powerful Clydesdale horses, being held in check by an attendant, and away in the distance the old bridge which spanned the river Clyde until sixty years ago is clearly outlined. The other picture is from the brush of Mr. John Lavery, who has selected as his subject a scene in the shipbuilding industry. It would certainly be a great advantage if other large towns would follow the example set by Glasgow and London, in the Royal Exchange, and to the size and symmetry and fair proportions of their halls add that nameless charm which colour alone can give.

In 1811 C. R. Cockerell, who was travelling in Greece with an English and a couple of German companions, was fortunate in discovering the Æginetan marbles among the ruins of the temple which is now believed to have been dedicated to Minerva. Cockerell sent home a description of them to his father, and mentioned that the value of the sculpture was 6,000*l.* The trustees of the British Museum offered through him to pay that sum if the figures from the pediments were brought to London, and were then judged to be worth the money; if not, they were to be exported, free of duty, to any other purchaser. The owners declined the arrangement. The trustees then offered 8,000*l.*; but meanwhile the Prince Royal of Bavaria contrived to purchase them, and it is thought that his price was not more than 6,000*l.* We have to be satisfied with casts of them. From the possession of such interesting groups the Bavarian archæologists could scarcely fail to regard Ægina with peculiar interest. Under the direction of Professor Furtwängler excavations have been commenced on the site of the temple. In 1811 it was not necessary to go below the surface of the ground, and on that account it is not altogether certain whereabouts the figures of the warriors were found, or to what temple they belonged. It is hoped that if a systematic examination of the ground were undertaken much other sculpture might be discovered. There was an Æginetan school, and one of the members of it, Onatus, gained great reputation. It was also a fact that colours and gold were much employed on the figures, some of which in Munich still have remains of gold in the eyes. The results of the modern inquiries will therefore be watched with interest.

Over a large part of the metropolitan area there is dissatisfaction with the London Building Act of 1894. In Hampstead, on the contrary, it is considered that the enactment is inadequate to cope with the neglect of the builder and his employer. According to a memorial lately presented to the County Council, no public authority has any general power of controlling the buildings erected in the borough. No request is at present made for an amendment of the Building Act. It is pointed out, however, that when a builder asks to be relieved of the exact fulfilment of any provision in that Act the County Council may impose any conditions it sees fit. Such requests occur in a considerable proportion of all proposed building schemes, these cases having last year numbered 2,320. Some cases are already referred by the County to the Borough Council for criticism and advice, and it is urged that such opportunities should be seized for the protection of public interests. Even when the Building Act is complied with, the County Council can withhold its consent for two months, and it is urged that this power be used to notify the public of any proposal which there is *prima facie* reason to think may injuriously affect any public interest. An opportunity would thus be given for arrangement by mutual concession or by payment. The present practice is to give notice only to the owners of immediately adjoining premises, and the request of the memorial is merely for the extension of this practice.

The Society of Scottish Artists have a grievance. At their annual meeting held on Tuesday last Mr. Charles H. Mackie, the president, alluded to the position of Edinburgh as a great holiday resort in the summer time, and said it had been one of the great objects of the Society to show to the strangers visiting the city that they had a living Scottish art in their midst. Very little had been done by the city, however, to represent art. In the National Gallery, which was managed by the Board of Manufactures, anything but countenance had been given to the art of to-day, and anyone who had been accustomed to frequent the Gallery, as he had been, must have been struck by the admiration expressed by foreigners at the work which the Society had shown there. In fact, to many of them it came as a great surprise, and he thought as a Society they might well look forward to some wealthy citizen giving them a permanent gallery for their exhibitions. A correspondence between the Board of Manufactures and the Society was read, in which the Board declined the use of the Gallery this year for the exhibition, stating that they contemplated using the Gallery themselves for art purposes during the ensuing summer and autumn. It was intimated that the Society had obtained the use of the French Gallery in Princes Street for their annual exhibition. Dissatisfaction was expressed that at the Glasgow Exhibition only six artists from Edinburgh had been selected to send their work, as compared with sixty Glasgow artists. The Society is an influential one, for the membership consists at present of 115 professional, 63 lay, 77 honorary lay and 11 life members. The sales of pictures, which included 80*l.* distributed by the Art Union, amounted to 589*l.* 13*s.* 5*d.* The financial statement shows a surplus of 104*l.* 10*s.* 8*d.* on the year's working, which, added to the previous fund, leaves a total of 636*l.* 0*s.* 6½*d.* on hand.

ARCHITECTURAL DRAWINGS AT THE BUILDING TRADES EXHIBITION.

ALTHOUGH the Building Trades Exhibition has been held during several years, it is remarkable that architectural drawings were not to be seen in it until the present year. The omission has not been advantageous, for without architectural designs the objects in the Agricultural Hall must have an incomplete interest. Building has a great many subsidiary industries, and they are all more or less inspired by the architect's labours. To ignore the architect is to become indifferent to the initiating movement which is necessarily felt in all trades.

The experiment which has just been tried has, apart from its novelty, another kind of interest. It is an attempt to suggest the advantages of the recognition of the architect, and to demonstrate the connection which exists between architectural design and various classes of manufactures. In such cases all that can be anticipated for those that make the venture is no more than a limited amount of success. It is now manifest that a much larger area should have been utilised for the exhibition of many excellent designs. It is always difficult to make a selection when numerous drawings are available. But if considered as a venture, what is now to be seen at Islington will be admitted to possess many points of attraction. It is needless to say that in the choosing of drawings the utmost impartiality was exercised. The intention was to suggest to visitors the average character of London and provincial buildings. Many examples were forthcoming of more costly structures, and, on the other hand, much cheaper buildings could be shown in an almost unlimited variety. But what was sought was, as we have said, to demonstrate the class of buildings which are in request, and the treatment of them which finds most favour in the eyes of clients.

It is, of course, impossible to define with any certainty the height to which an architect can ascend. Questions of cost and the like often prevent the completion of excellent designs, and the most which can be attempted rarely goes beyond a literal interpretation of conditions. To exhibit a design as proof of the extent of an artist's ability is therefore hardly fair to him. In the Academy an architect as a rule is rarely allowed to show more than one drawing. At Islington it was sought to emphasise the variety of power which every artist who aspires after a general practice must possess. And to members of the building trades, who are supposed to be well acquainted with the capabilities of English architects, there have been in consequence many surprises arising from the mere hanging of drawings by the same architect close together. Take Mr. R. A. Briggs as one case. He is known as a designer of attractive country houses and bungalows. But the views of a hotel at Cardiff disclose remarkable skill in dealing with neo Classic forms, while the altar and reredos from Worcester Cathedral show unlimited patience in working out Mediæval details. Messrs. Sugden & Son's and Mr. Larner Sugden's buildings at Leek reveal the benefits which a district of country possesses in having an architect who studies all the circumstances of the ground, and who is aware of the extent to which landscapes can be improved by having handsome structures specially designed to turn all features to good account. Another instance is afforded by the examples contributed by Mr. Silvanus Trevail, which show how much he has accomplished in Cornwall by means of skill. Many London architects are gifted with similar versatility, but owing to the extent of the Metropolis identification is far less easy than in a provincial district. The numerous shops and buildings by Mr. T. E. Knightley, for example, while showing power and variety, are not sufficient to indicate the skill that is seen in the concert halls at Langham Place and the Birkbeck Bank. Mr. F. Wallen contributed enough drawings to prove that he avoids repeating himself. Mr. S. J. Nicholl's churches must have been novelties to many. He shows a building at Wellingborough with a detached campanile, and an interior that is no less effective. Another church at Brighton is in Romanesque, admirably adapted for its purpose. But a younger generation has surpassed him in the race, although his churches are well entitled to the consideration of committees.

The vast extent of modern building schemes in London is exemplified by Mr. Delissa Joseph's Chelsea Court and Fitzgeorge Avenue, Kensington. In the latter we have an example of the attention that is now being given to skyline, and the character of the group is well brought out in the drawing. In the Cardiff Synagogue we see a more severe treatment, and the numerous domes must at once attract attention; while Bush Lane House, Cannon Street, is a typical instance of the Italian which finds favour in the City. Rowton House, Newington Butts, is one of the buildings which are now obtaining consideration not only from English but foreign philanthropists. Another effort to solve a similar problem is seen in Mr. H. B. Measures's dwellings and shops in Crawford and Homer Streets. His large group of shops at Streatham Hill are laid out on a curved site, and have a variety of gables, which at once emphasises the difference between them and the workmen's dwellings. Mr. J. G. Fairley's Fauld House School recalls the Scottish type, and the light grey walls and purple slate roofs form a combination of colour which is novel to Londoners. In Fountainhall Church, Edinburgh, the same architect presents a church that is well adapted to its purpose, although it has neither tower nor steeple; the walls are of sandstone, with roofs of green slate. With some estate developers a church is an important factor. The Seaforth Congregational Church and Parsonage would answer that purpose. It has an excellent position at the corner of roads, and the combination of light red in the walls and light green on the exterior woodwork gives an idea of the treatment that should be followed in designing the houses around. Two views of a residence at Birkenhead, also by Mr. J. H. Cook, are comparable with any of those of suburban dwellings of the Metropolis.

The group of buildings which we publish this week is an example of what municipalities are now doing, and of what they are able to accomplish by the aid of local architects. Messrs. Briggs & Wolstenholme and Messrs. Stones & Stones are not the only architects who are entrusted with very large works. What many will admire in such undertakings as are mainly intended to benefit the humbler classes is the attractiveness, which is held to be essential. The Rochdale Union Cottage Homes, by Messrs. Butterworth & Duncan, might be taken for a design for laying out a picturesque building estate. The new workhouse at Greenwich, which received a diploma at the Paris Exhibition, by Messrs. T. & T. N. Dinwiddy, is another example of an endeavour to prevent inmates from losing self-respect by living in the old prison-like buildings. Mr. Elijah Hoole's Lambeth Dwellings are treated as a series of Gothic buildings, and are worked out with ample detail. Several other drawings could also be referred to as signs of the interest which is now taken in the lowly, among them being the Coborn School for Girls, by Mr. G. Elkington; the Passmore Edwards Boys' Club, Canning Town, by Mr. Lander; the Parish-room, Northwold, by Mr. C. A. Parre; the Church-room, Ewell, by Mr. A. T. Bolton; Toynbee Hall, by Mr. E. Hoole; the St. Pancras Public Baths and Wash-houses, by Messrs. Aldwinckle & Son; the Murphy Memorial Hall, by Mr. A. S. Taylor; and the Convalescent Home, Littlehampton, by Mr. F. Wheeler, &c.

No matter under what circumstances a collection of English architectural designs is brought together, there is sure to be a great many which have churches for subjects. There was, we believe, no special arrangement about preference for the drawings at Islington, but churches are to be seen in abundance. Mr. J. Oldrid Scott upholds the reputation of his name by his south transept and choir of Selby Abbey and tower of St. Michael's, Bournemouth. In both works the traditional Gothic is respected as if it were a dogma. Mr. H. Roumieu Gough shows the exterior and interior of the parish church at Hammersmith, remarkable for its sobriety of treatment. Another of his works is the church of St. Laurence, Catford Bridge. Mr. C. F. Hayward in St. Peter's, Colchester, displays a graceful tower surmounted with a coronal, which is not copied from the Scottish examples. In the west door of Ross Cathedral, by Mr. Hill, we have what appears to be a Norman work, so faithful are the details. In the designs for the church of St. Columb, Notting Hill, Messrs. Thornton & Tenison show a red brick interior.

The drawing at least is suggestive of mysticism, which is emphasised by the occasional touches of gold. Wrotham Park Chapel, by Mr. T. Garratt, is a small Gothic building. In the English Church at Lucerne Mr. F. R. Farrow has endeavoured to avoid stereotyped arrangements. Messrs. Rogers, Bone & Coles, in the lectern of copper and oak for St. Brelade's Church, Jersey, have produced a work that is not only novel but interesting.

The designs by Mr. Ernest Rüntz relate to a wide range of subjects. Among them are a premiated design for municipal buildings, Oxford; a theatre at Hastings, a country house at Sutton, a hotel in Glasgow, business premises in the Strand and stabling at Lingfield. Messrs. Florence & Isaacs contribute views of the Coburg Hotel, the library, Freemasons' Hall, and the Empire Hotel, Lowestoft, which are among the most important designs on exhibition. Messrs. Ernest George & Yeates have characteristic drawings of the village of Buscot, Edgeworth Manor, and the new part of Edgeworth Manor. In a different style of draughtsmanship, but just as effective, is the view of a house at Harrogate, prepared by Mr. H. Railton, for Messrs. Bland & Bown. The small country houses at Northwood, Harrow and Stanmore, by Mr. Arnold Mitchell, at once attract attention from the skill shown in the drawings. Mr. F. G. Knight's designs have also claims to notice on account of the execution. But the mansions represented are among the most important of those executed in recent years in the south-western district. Mr. H. O. Cresswell is also the architect of fine houses, which he draws with skill. Messrs. Clayton & Black's Sussex buildings are drawn with a clever and practical hand, and have received much admiration. Uplands and Selehurst are fine instances of Sussex mansions. Messrs. Wimperis & Arber show in addition to the Prince's Restaurant, which on its opening at once became one of the sights of London, a dining-room for the Earl of Crewe in the Elizabethan style.

The country houses by Messrs. Guy Dawber & Whitwell are interesting. They include one at Cley, in which flint is used in the walling; Donnington Hurst, another excellent mansion, and one at Walton-on the Hill. Messrs. Butler Wilson & Oglesby show some examples of interior treatment, which are unsurpassed for effectiveness by any of the works in the gallery. Mr. F. Smallman has a cheerful country house in which red and green are skilfully employed. Mr. Ernest Newton exhibits a rather sombre house at Wokingham. Mr. F. M. Elgood endeavours to compensate for some of the dreariness of Hertford Street by his treatment of No. 51 and of three houses in the neighbouring Wigmore Street.

Mr. E. W. Mountford contributes a view of the new Technical School and extension of Museum at Liverpool, which he gained in competition, and also a block of the Sheffield Infirmary. Mr. C. F. Hayward shows the designs for Local Offices, Harrow, and for St. Giles's Public Library. Mr. G. W. Webb sent several drawings, as did Messrs. Wilson & Moxham, Ransome, Oakley, Lewis Solomon, H. Davenport, Messrs. Athron & Beck, R. M. D. Lucas, A. T. Bolton, Arthur Hill, &c.

LAWRENCE'S "CORIOLANUS."*

The story is told that one day Sir Thomas Lawrence was met near Appuldercombe, in the Isle of Wight, by a friend, to whom he said that he had been visiting his *Coriolanus*, which was then in Earl Yarborough's collection, and was humbled on seeing its superiority to so many of his later works. Every painter of note, although fashion may restrict his movements, likes to produce works which will be painted for himself rather than for the crowd. The *Coriolanus* was a picture of that class. The proud Roman has not the refined bald head which appears to have belonged to the majority of the eminent subjects who came before Lawrence, but it has a virile power which is no less characteristic of Englishmen. The painter was at one time ambitious to become an actor, and one of his dreams was to be allied by marriage with the Kemble family. The unusual power which is to be seen in the portraits of John Kemble as Pizarro, Cato and Coriolanus, for the Hamlet was over-refined, proved that to him the depicting of the great tragedian was a labour of love.

The recent revival of the Roman play, which has obtained a limited measure of success, excites the question why in the early part of the century "Coriolanus" could be regarded as one of the stock pieces in all the legitimate theatres of Great Britain? The difference in the reception which was, and is, given to Shakespeare's work has been explained in many ways. But modern fastidiousness undoubtedly has had much to do with effecting the altered state of feeling. The Roman costume, for instance, in which John Kemble is seen draped does not correspond with any particular period. It was never fashioned after a definite antique statue. But in these days we expect not only that the costume in a play of the kind will be Roman, but will belong to the particular time in which the action is supposed to take place. The same attention to detail has to be shown by the landscapes, buildings, furniture and other accessories which are introduced. At the Lyceum Sir L. Alma Tadema has undertaken to be responsible for the accuracy of costumes and surroundings, and he has undoubtedly caused scenes to be produced which are interesting to archæologists, and will be more useful to a student than several hours' study of Smith's "Dictionary." But his agency in "Coriolanus" is only the last of many efforts to resuscitate Roman life.

There can be no question that the Romans brought before us by the painter are not the Romans of Shakespeare. Dr. Johnson, although he was not a Shakespearean enthusiast, backed up the English poet against his French and other critics by maintaining that, whatever were the shortcomings of his characters, they at least were men, which could not be said of those in the French classic plays. Johnson was indifferent to the perfection of accessories on the stage. It is false, he said, that any representation is taken for reality; if delusion be once admitted it has no certain limitation. "The spectators are always in their senses and know, from the first act to the last, that the stage is only a stage, and that the players are only players. They come to hear a certain number of lines recited with just gesture and elegant modulation. Once persuaded that their old acquaintances are Alexander and Cæsar, that a room illuminated with candles is the plain of Pharsala or the banks of the Granicus, they are in a state of elevation above the reach of reason or of truth." Johnson believed that a play read affected the mind like a play acted, and neither in the one case nor in the other should the accessories diminish the interest of the action.

Pictures, engravings and photographs have made us so familiar with representations of Roman life which are based on archæological research, it is hard to resist the conclusion that Shakespeare is altogether incorrect. His speeches were not composed to be spoken by men who wore embroidered robes like women and who lived in houses which abounded in articles of *virtu*. His characters, as Johnson said, are not modified by the customs of particular places or by the accidents of transitory fashions or temporary opinions, and the creators of those characters would be failures if they attempted to perform under modern conditions.

As regards stage arrangements, John Kemble belonged to a time of transition. The audience were more disposed for amusement than for education. Pelting the actors with oranges, apples, or other fruit was not uncommon, and it may now seem incredible that when John Kemble and Mrs. Siddons were representing the scene between Coriolanus and Volumnia an apple fell between them, and the actor's remonstrances were not received with expressions of sympathy for him. At an earlier time Garrick, when struck by an orange, pretended to taste it, and by that means kept the house in good-humour. Kemble, however, realised the absurdity of many of the old ways and customs, and he endeavoured to reform the stage as well as to control the audiences. But he never allowed either the scene-painter or the costumier to overcome the actor. His theory was expressed by his friend Walter Scott, when he said, "The Muse of Painting should be on the stage the handmaid not the rival of her sister the Drama." Each art should retain its due predominance within its own proper season. It was to be regretted that Kemble could not in one way rise above the demands of the public. The actor who lived in days when he could not obtain permission from an officer for a few soldiers to appear on the stage, introduced, as if out of revenge, those endless processions and crowded spectacles which are fatal to progress in acting.

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* See Illustration.

John Kemble was a meditative man, and as a student of books he was unlike all the actors of his time, and it may be questioned whether any of his successors could be deemed as scholarly, although they may make more pretension to the gift. To him the Roman period was to all appearances what it was to Shakespeare. His stately march, his measured and solemn utterance and his dignified gestures recalled the old Romans of the imagination. Scott said of him, "Other performers might excel Kemble in the full burst of instant and agitating passion to which the person represented is supposed to give the reins upon any direct natural impulse, but we cannot conceive of anyone delineating, with anything approaching to the same felicity, those lofty Romans, feeling and partly exhibiting, yet on the whole conquering the passions of nature by the mental discipline to which they had trained themselves." But Kemble could at times display instant and precipitate exertion, as when, in the sixth scene of Act II. in "Coriolanus," he rushed on the stage with a half-breathless cry, "Come I too late?" His command of muscle and limb was no less striking. Scott, in describing the death scene, says:—"The Volscian assassins, approaching him from behind in the very midst of the triumphant vaunt of his repeated victories over his countrymen, seemed to pass their swords through the body of Coriolanus. There was no precaution, no support; in the midst of the exclamations against Tullus Aufidius he dropped as dead and as flat on the stage as if the swords had really met within his body. We have repeatedly heard screams from the female part of the audience when he presented this scene, which had the most striking resemblance to actual and instant death we ever witnessed." In the play Kemble must have received inspiration as well as support from his sister. She made everybody feel the extent of her pride in her warrior son, and the mothers in the pit used, as was said, "to blubber all round." In Mrs. Siddons nature was predominant, and art was simply an auxiliary to it. In John Kemble art was supplemented by nature. One touch of nature makes the whole world kin, and from what has been said by old playgoers and critics, "Coriolanus" was accepted as a play in which nature was seen under unusual conditions. Nobody would now set much value on the display of the mingled feelings which made mother and son show their relationship. What is sought is an archæological exercise, and that we can witness with more confidence owing to a nearer resemblance to antique life than was ever allowed on any earlier stage.

ASYLUM CONSTRUCTION.

At a meeting of the Edinburgh Architectural Association on the 18th inst. Sir John Sibbald, ex-commissioner of lunacy for Scotland, read a paper on the plans of asylums for the insane poor, looked at from the medical and administrative points of view. He said that asylums for the insane had now become so prominent among our national and municipal institutions that it was of great public importance that correct views should be held as to the kind of building which was best suited for them. It was at least helpful if not absolutely necessary for a proper understanding of such questions to know something of the grounds on which persons familiar with the treatment of the insane had arrived at their present opinions; and this knowledge could be best obtained by taking a general survey of the changes that had occurred in the character of asylum buildings during what might be called the modern epoch. Sir John briefly referred to the kind of buildings in which the insane were lodged previous to the nineteenth century, and mentioned as illustrations the cells attached to the Charity Workhouse and the old Royal Infirmary. The duty of erecting asylums at the public expense was not seriously recognised in this country till the middle of last century, when the English Lunacy Act of 1845 and the Scottish Lunacy Act of 1857 laid this duty upon localities, and conferred on them powers for obtaining the necessary funds. To illustrate the growth of opinion in regard to asylums since that time, Sir John first referred to the plans of the Derby County Asylum, which was opened in 1851. He then drew attention to the plans of the London County Asylum at Bexley, which was opened in 1898, and referred to the improvements which showed themselves in the more recent plan. Among these it was noticed that the several wards into which the accommodation for patients is divided no longer consist, as they did at Derby, of rows of cells in prison-like galleries, identical in plan, but that they are each specially designed for the patients they are to accommodate, according to the requirements of their different bodily and mental conditions—those requiring hospital treatment, for example, being placed in wards arranged like those of an hospital, and those in good bodily health, and whose mental condition does not require them to be housed differently from sane persons, being placed in wards of more home-like character. He pointed out that this type of asylum, which he called the aggregated pavilion type, differed from the next type to which he drew attention, chiefly by the several wards being connected to other wards either by being portions of the same building, or by the existence of corridors of communication. The type in which the wards consist of separate and independent buildings he called the segregated pavilion, or village type, and he illustrated it by reference to the plans of the Prussian asylum at Alt-Scherbitz, and of other more recently erected asylums of the same type He gave a number of reasons which, in his opinion, justified a preference for the segregated pavilion or village type. Among these he mentioned the importance of making the buildings and everything else about an asylum as likely as possible to have a beneficial influence on the minds of the patients, and he showed that it was difficult to prevent a huge building which was neither a palace nor a manufactory from being both inside and outside gloomy and prison-like. He was also of opinion that where each ward was a completely independent building its arrangements could be made more efficient both from the general points of view of cheerfulness and health, and from the special point of view of the adaptation of each ward to its own purposes. He said that he thought the objections to the segregated buildings that had been raised from the administrative point of view were sufficiently met by the fact that they received no support from those who have had the actual administration of a village asylum. He alluded to the fact that it was proposed to erect the new Edinburgh Asylum on the village type, but did not make special reference to the Bangour plans, as they had not yet been finally adopted by the District Lunacy Board or approved of by the General Lunacy Board. In the course of the paper, Sir John drew attention to the difference in practice north and south of the Tweed in regard to the courts surrounded by high walls which were at one time attached to asylums as well as prisons, and which are generally known as airing courts. He said that in Scotland the use of these airing courts had fallen into disfavour as early as 1869, and in that year the walls were removed and the airing courts abolished in one asylum. Since then the walls had either been removed or lowered so much as to cease to be restrictive, in nearly every Scottish asylum; and in no Scottish asylum erected since 1869 had any airing courts been provided. In English asylums, on the contrary, airing courts were still in general use, and he quoted from the English Commissioners' reports to show that in at least three of the London County Asylums, from one-fourth to one-third of the inmates never took exercise beyond the airing courts He strongly advocated the abolition of these airing courts. Another point to which he drew attention was a recent movement—to which he gave his support—for the diminution of the practice of locking up in single rooms during night-time the noisy, the excited, and others of the more troublesome patients, and he spoke strongly in favour of the great increase in recent years both in the amount and the efficiency of the night-nursing given to such patients, and he showed how such a change in the mode of treating them should affect the plans of future asylums At the close Sir John Sibbald received a hearty vote of thanks.

THE SOCIETY OF ARCHITECTS.

The members' annual dinner of this Society was held on Wednesday evening last at the Prince's Restaurant, Piccadilly, W. The president, Mr T W. L. Emden, L C.C., occupied the chair.

Among those present were Ven. Archdeacon Sinclair, D D., Rev. Dean Langton Geo. Vere, Sir Wyke Bayliss, F.S A., Professor John Perry, Hon. W F. W. Massey-Mainwaring, M.P, Mr. E. A. Cornwall, J.P., L C.C., Mr. E. Goulding, M.P., Mr. W. J Bull, M.P., Mr. H S. Samuel, M.P., Mr. W. E. Riley, Mr. J Butler Wilson, Mr. L. Gomme, Messrs. J. Hunt, Edward Terry, T. R. Richards, C. Caine, T. Cook, A. Scott, J. Jordan, W. A. Scott, Ed. Keenor, A. J. Harvey, Vincent Harris, Alfred

Cumner, E. T. Ruthven Murray, D. L. Fulton, C. Palmer, W. Cooper, Cyrus Braby, H. Ryle, A. W Roques, T. Falconer, J. C. Jackson, H. G. Quartermain, Ellis Marsland (hon. sec.), O. Marsland, Walter C. Williams, G. G. Pye, W. R. Mallet, C. E. Jackson, J. Stovell, A. Quartermain, A. R G. Fenning, E. J. Hamilton (past president), J. R. Manning, R. De Burgh d'Arcy, Rev. A. Mercer, Geo. H. Green, W. H. Pearce, G. Paine, A. Felton, Owen Owen, W. Lees McClure, W. W. Thomas (vice-president), Geo. E. Bond, C. E. Skinner, G. R. Viney, C. Day, R. D. Batchelor, W D. Driver, F. G. M. Chancellor and friends, L. S. Cohen, P. Condy, E. H. Dring, F. C. Warren, H. Warren, John Finch, C. Wall (president Master Builders' Association), H. H. Harrison, W. J. Jennings, F.S.I., H. Theobald, F.S.I., A. E. Pridmore, F S.I., Chas. Martin, E. C. Isborn, F. W. Macey, R. G. Bare, J. W. Dunford, Fred Smith, Herbert Bullock, H. A. Cooper, Frank Matcham, A. F. Wrightson, A. Heelis, B. R. Tucker, H. Champness, Bernard Strauss, Silvanus Trevail, J.P., F.R.I.B.A. (vice-president), and C McArthur Butler (secretary).

The toast of "The King, the Queen, T.R.H. the Duke and Duchess of Cornwall and York and the Royal Family" having been honoured, Mr. Silvanus Trevail, J.P., proposed "The Houses of Parliament," and said they looked to members of Parliament to help forward the Society's movement towards the registration of architects. If such a Bill were passed they would have cultivated men dealing with such matters as architecture and building, and thereby affecting the general well-being of the whole country.

Mr. E. Goulding, M.P., responded.

Mr. Edward Terry, in a characteristic speech, gave the toast of "The Clergy," remarking that it was a rather peculiar privilege for an actor to do so. He supposed one of the reasons why he was asked to give the toast was because it had been stated that he had held the office of churchwarden. But this really was not the case; the rumour had probably been caused by his adaptation from the German of a play called "The Churchwarden," and as the story had been current for fifteen years he thought he might now dispel the illusion. With all sincerity he submitted the toast of "The Clergy."

The Ven. Archdeacon Sinclair, D.D., in responding, said both the clergy and architects should have a common interest in the principles of architecture, and they ought to be understood by both. The Rev. Dean Langton Geo. Vere also spoke.

Mr. H S. Samuel, M.P., proposed "The London Authorities," and said the various governing bodies were actuated by the very best motives. Mr. E. A. Cornwall, J.P., L.C.C., and Mr. J. Hunt replied.

Sir Wyke Bayliss, F.S.A., who gave the toast of "The Society of Architects and Architecture," said one of the greatest pleasures in the life of an artist was the gathering together of these great societies—societies of artists which had noble aims, although they had different methods of work. It recalled the old guilds of Venice, Florence and Rome, when the architects, sculptors and painters met together.

The President, responding to the toast, said the work of the Society was twofold. First, to create and establish compulsory registration of architects, and, secondly, to encourage the art of architecture And towards that end it had, in the course of a comparatively brief existence, lent great aid. There was at the present time one matter which he believed was in the minds of most of the members, and which pertained to the late great Queen. There was a proposal before the public that a memorial should be raised worthy of her reign, and it was suggested that not the whole of Great Britain and Ireland should be free to send in suggestions, but that some selected few should be invited to offer their views. It might cause trouble and anxiety to those who had to deal with the question to ask the masses to send in proposals and ideas, but in such a matter it seemed to him that it should have been open to the whole profession and to the whole of the people of this country. Those who had been selected were men of well-known reputations, and of whom no one could complain, but was it to be assumed that they were the only men to whom the subject should be confined? Were there not many others who had in them something great and something noble? At any rate, why not give them the opportunity of showing what was in them? This was one of the events which could happen only once in a century, and therefore he held that it should be a matter in which the whole of England should be free to try to produce something of which the whole of the country should be proud.

Mr. W. W. Thomas proposed the toast of the visitors, to which Mr W. J. Bull, M P, briefly responded.

A musical programme followed.

Mr. T. G. Pinches, of the Department of Assyrian and Egyptian Antiquities, British Museum, has received the degree of LL D. from the University of Glasgow.

TESSERÆ.

The Arts in Saxon England.

THE arts which had been brought by the Romans into Britain appear to have never been wholly neglected, although subjected to the vicissitudes consequent upon internal disorder and the irruptions of barbarians "Even the Anglo-Saxons," writes Henry, "who were among the most destructive of the northern conquerors who overturned the Roman Empire, did not long continue to despise the pleasing arts, particularly that of painting, which was practised by them with considerable success" We find that, previously to the edict by which Charlemagne resolved to encourage the various arts to the utmost of his power, Wilfrid, Bishop of York, and Biscop, his friend, had already extensively availed themselves of the assistance of the artists in order to decorate the cathedral of St Peter, before the year 675. Biscop undertook a journey to the Roman States, and brought home many pictures with which the churches of St. Peter and Wearmouth were ornamented The second visit of Alfred to Rome with Ethelwulf, although undertaken at an early age, would, doubtless, not be without due influence upon such a mind when upon his return the society of Judith, his stepmother, the sister of Charles the Bald, contributed to unfold his character. The painted chamber at Westminster, in which Edward the Confessor died; the renown of St. Dunstan as an accomplished painter and skilful contriver of instruments; the remains of the Saxon chased and enamelled work, which was esteemed upon the Continent as early as the seventh century, and the manuscripts, which are yet extant, prove that in this country, at least, the arts, as introduced by the Romans were never wholly lost; for when Alfred the Great called workmen from all parts of Europe, in order to assist in the construction of the edifices he proposed to erect, it is probable that the first infusion of the Byzantine taste, which for so long continued with us, was imbibed; yet previously to this period the churches in England were hung with silk draperies brought from foreign lands, while the windows and ceilings were richly decorated.

Etruscan Vases.

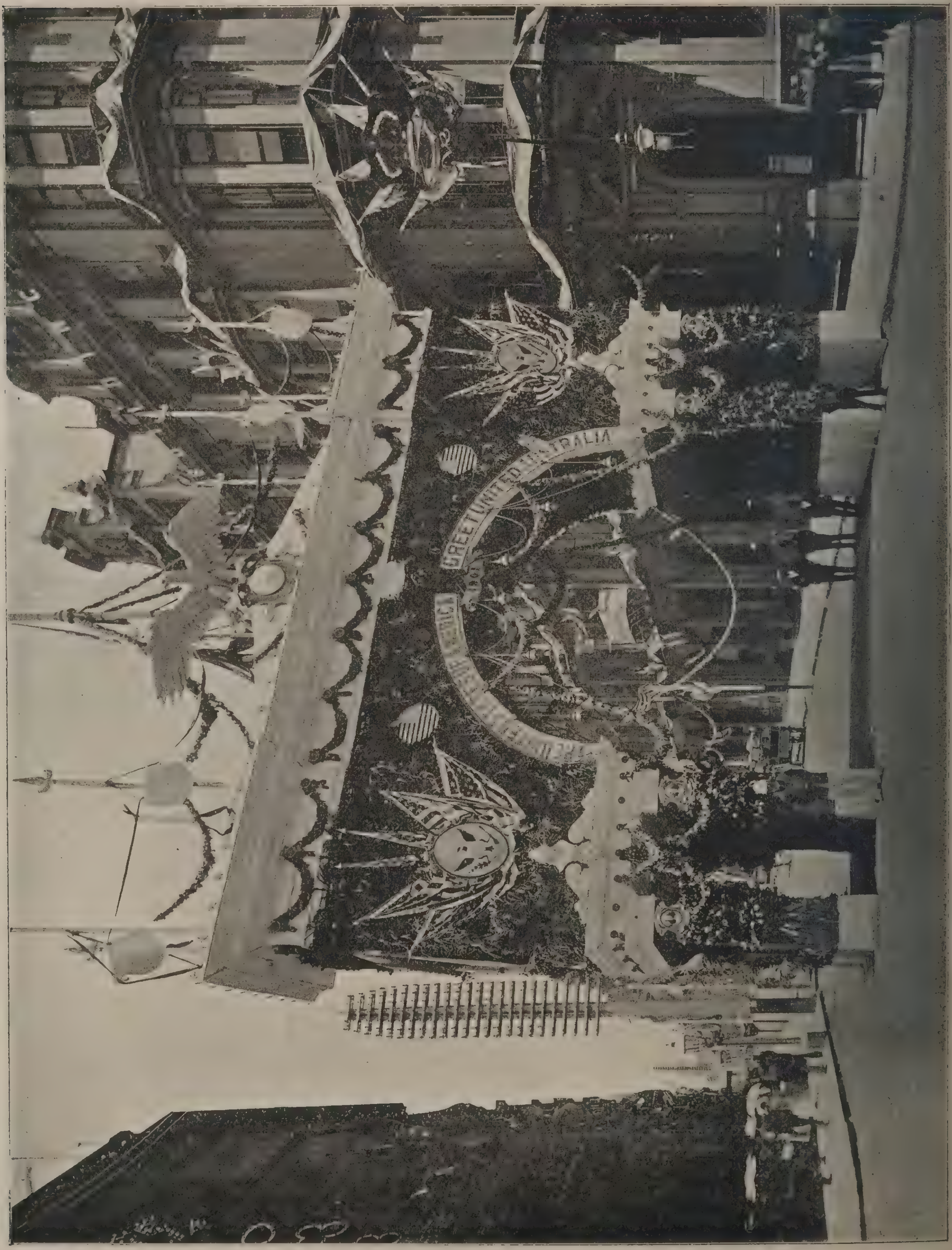
The earliest of the Etruscan vases are entirely red or entirely black, without colour or ornament; the ansation or system of handles was so clearly derived from the human form that hands and arms were sometimes directly introduced, and on cinerary urns the cover was frequently a bust of the deceased In one singular urn the head, neck and arms were movable on brass pivots, and spiracles were worked through the handles to prevent the accumulation of unpleasant odours in the urn. The Etrurian, Italo-Grecian and Egyptian vases present the most striking evidence of a common type, and in the most artistic of these productions the archetype has manifestly been the bust of a beautiful female. The Etrurians actually reproduce this model, but the Egyptians recede from it widely. From examination and comparison it seems pretty evident that the adoption of the human bust as a type was suggested by the perception of resemblance between vases and the human figure, and that few of the earlier potters had this archetype in their mind. Like every other art, pottery must have greatly advanced before efforts were made to combine beauty with utility, and it is quite in accordance with recorded experience that the first advance in artistic decoration should be founded on natural resemblances.

Celtic Names.

The story of King Lear and his three daughters belongs to the Celtic period of British history or tradition King Leir, as the name is written in the old chronicles, is supposed to have been the son of Bladud, and to have reigned over part of Britain in the middle of the ninth century before the Christian era. Shakespeare did not invent the legend on which he founded his matchless tragedy, nor the names of the three daughters of the unhappy king, all of which he found recorded in Geoffrey of Monmouth, and other ancient chroniclers. It has never before been pointed out that their purely Celtic names are descriptive of the characters assigned to each of the three sisters in the old legend. "Goneril" is derived from gonach (gona), sharp, keen, cruel, wounding, stinging, and riaghail (ri-ail), to rule or govern; "Regan" from righinn, hard, stubborn, unyielding, unbending; and "Cordelia" from cord, agreement, or to agree; or corr, excellent, and dileach, loving, affectionate. No reader of Shakespeare can fail to see and admire the singular accuracy of these epithets as applied to the three women; or by what easy transitions of pronunciation from the Celtic to the Saxon the words acquired the form which they now bear. Leir or Leire signifies, in Celtic, austere and pious; and it is just possible that the ancient king, if he ever existed, was so named by his contemporaries in designation of his character.

THE AUSTRALIAN COMMONWEALTH.

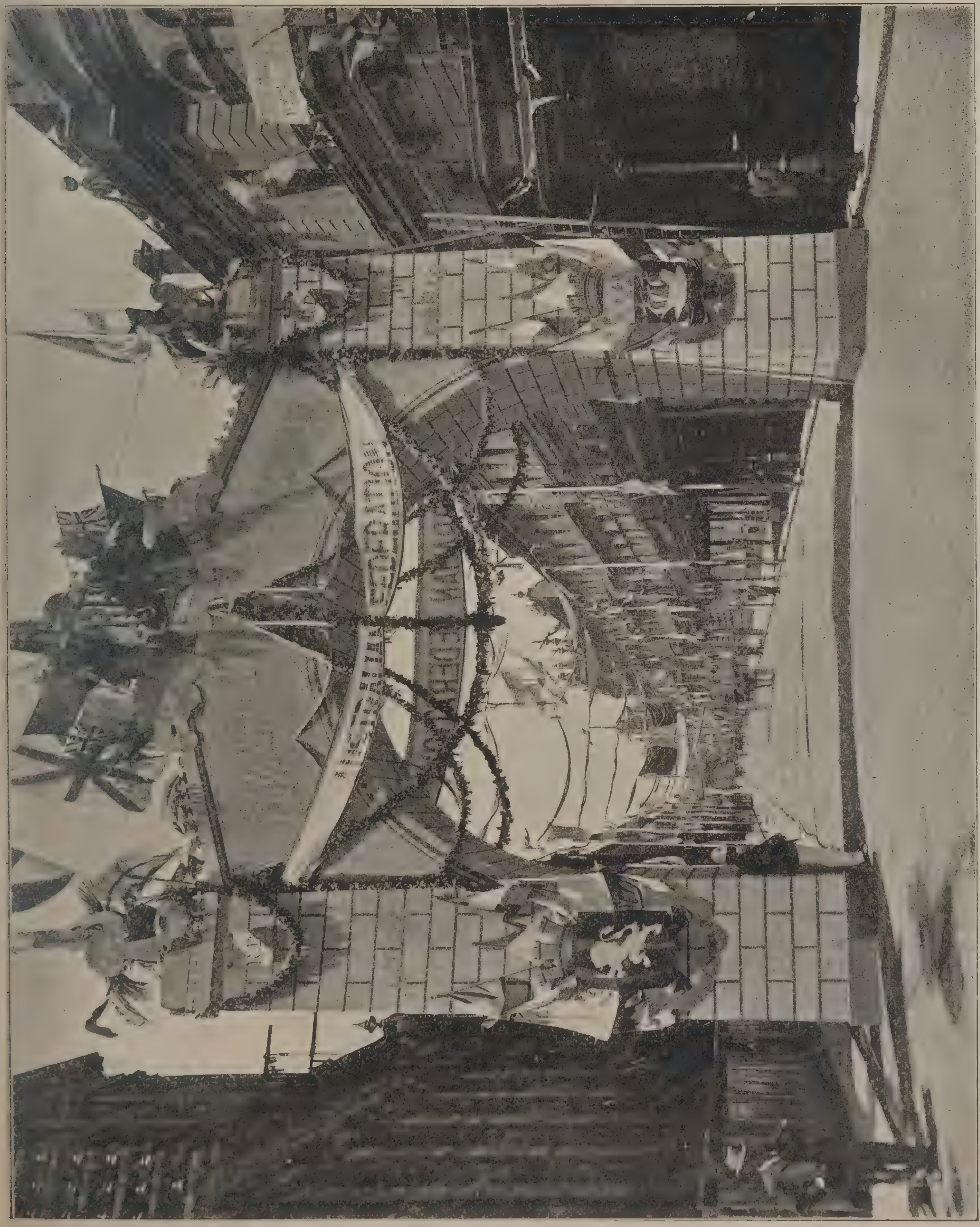
WE publish this week two more of the triumphal arches which were erected in Sydney as part of the commemoration of the new Federation of Australia. On such occasions a native style of structure could be adopted with advantage. But there are so many associations connected with the Classic type of triumphal arch, no one can blame a colony in the southern seas for wishing to display a relationship with ancient Rome. It is also undoubted that the Classic style lends itself to the utmost diversity of buildings and never seems out of place, however far we may go from the great city where it originated. Greek has its limitations, and, moreover, it demands so much reverence, it seems unfitting to utilise it for temporary structures which have to vanish almost as soon as they are erected. The Roman style is adapted to all the circumstances of life, and it cannot be said to be incongruous in regions which are too young to possess a history. The Roman arches formed, as it were, indispensable features in the constitutional triumph, and if they are fated to perish the recollection of them at least will long remain. The designers evidently are competent to erect monumental works in more durable materials.



AMERICAN ARCH, SYDNEY.

EDINBURGH ARCHITECTURAL ASSOCIATION.

ON Saturday afternoon the members of the Edinburgh Architectural Association paid a visit to several old buildings in the vicinity of the city They first visited the old chapter-house at Restalrig, by permission of the Earl of Moray. They then proceeded to Duddingston, where they, through the kindness of the Duke of Abercorn and General H. A. Cockburn, were privileged to inspect the mansion-house, which is a very perfect example of Sir William Chambers's work, built in 1768. Afterwards they visited Duddingston Church. At the manse the members were entertained by the Rev. J. A. Hunter Paton, who exhibited the fine old communion service. The leaders were—at Restalrig, Mr. A. Hunter Crawford; at Duddingston House, Mr Hippolyte Blanc; and at the church Mr. G. S. Aitken Mr. Aitken, in the course of a description of the architecture of the old church, referred to the very interesting fact that the plans of both Duddingston and Dalmeny must have been designed by the use of the vesica, and illustrated them by two specially prepared plans drawn from measurement. In each case the width of the nave portion of the church was taken as a radius; in the instance of Duddingston the vesica exactly filled the nave, in the case of Dalmeny two vesicæ were needed in conjunction with a circle which had a radius half the width of the nave. He also showed its application to some of the English Norman churches Another interesting point was the position of the sculpture of the Crucifixion on the west shaft of the doorway and not on the east. The argument was that, as the west end was the catechumen's part of the church, any representation of the death of Our Lord which was the basis of redemption would necessarily be as near the west end as possible. Mr. A Hunter Crawford, the leader of the visit to Restalrig chapter-house, concluded an informative description of the structure by suggesting that the secretary of the Association, in sending Lord Moray a letter of thanks for permitting the visit, might represent to his lordship that the members would be pleased to hear that the restoration of this interesting and almost unique building had been decided upon.



FRENCH ARCH, SYDNEY.

NOTES AND COMMENTS.

The police regulations relating to loitering in the streets in German towns are very rigorous. It is only on occasions of national display or when rulers are passing that any exemption is allowed. The by-laws, however, are now found to interfere with trade, and as a consequence there is much dissatisfaction among the people. Manufacturers and others, as in London, consider that the gables of German houses present fields for advertisements which should be utilised. Accordingly advertisements in many varieties have been set up without any prohibition on the part of the police authorities. But there is little use in a street advertisement unless people are allowed to stare at it. The police regulation will not permit of any loitering for that purpose, no matter how attractive may be the subject introduced. In various German towns the owners and occupants of houses have organised opposition, and their complaint has been heard in various law courts. The judges, however, hold that as the police have undertaken the duty of keeping the streets clear for traffic they must be supported, and although one or two judges may be in favour of permitting the owners of property to make a little profit by letting out their gables, the majority have accepted the police theory of the case. It would be well if in London a similar law was enforced, for illuminated and other advertisements are doing much to diminish the value of modern architecture.

There is less foolhardiness among foreign than among English workmen. Moreover, on the Continent scaffolding is made as if it were to endure for generations, and the control of works is to a great extent entrusted to official authority. But perhaps rumours are in circulation about the ease with which money can be obtained from English courts under the Workmen's Compensation Act, for the Belgians have decided on the introduction of a Bill in the Chamber of Representatives which can be described as a measure for obtaining compensation without running much risk of liability. The new Bill is not applicable to cases in which a workman is invalided for less than a fortnight. On the other hand, it goes a little beyond the English Act, for even if the accident is to be traced to the claimant the employer is still held to be responsible for damages. The amount of compensation is to be one-half the workman's average wages when there is total disability, but for partial incapacity the amount to be paid is one-half the difference in his power to earn wages. The Belgian Bill may be subjected to many modifications before it becomes law, but when it has attained that stage we may conclude it will be held by the Belgian workmen to be more favourable to their cause than the Workmen's Compensation Act, of which so much is heard in England.

The annual report of the Northern Architectural Association states that there are now 54 members, 74 associates and 61 students. The most interesting event of the past session was the generous offer of the president, Mr. William Glover, to give 500*l.* to the Association if a like sum were raised, or 1,000*l.* if a corresponding amount were subscribed before March 1901, in order to obtain a building for meetings, &c. In response to a circular which had been issued, promises to the extent of 238*l.* were received. The first excursion meeting of the present session will be held to-morrow, the 27th inst. The new technical college will first be visited, when it is hoped Mr. Hennings, of Messrs. Potts & Hennings, architects, will conduct the party. The new Board schools of the High Barnes Estate, the Little Sisters' Home, and also the extensive additions to the workhouse will next be inspected under the direction of Mr. T. R. Milburn, of Messrs. Milburn Brothers, architects.

The triennial revision of the salaries of the officers carried out by the Liverpool Corporation has been completed. The increases exceed 7,600*l.* yearly. In the Surveyor's Department Mr. Thomas Shelmerdine, who has been long employed in various offices, receives the substantial increase of 300*l.* a year, which brings his salary to 1,100*l.* Mr. Brady, the city engineer, is to be paid 1,200*l.* a year, an increment of 200*l.* Mr. Goldstraw, of the Building urveyor's Department, will henceforth be allowed 450*l.* per annum. The general manager of the tramways, Mr. Bellamy, has had his salary raised to 1,200*l.*, while Mr. M'Cullough, the electrical equipment engineer, is paid 600*l.* Mr. W. Hewett, director of the technical instruction committee, has received an increase of 150*l.*, making his salary 700*l.* per annum. Mr. T. Duncanson, the principal assistant, will be paid 550*l.* instead of 500*l.*; and Mr. Holmes, the city electrical engineer, will enjoy a salary of 1,800*l.* a year. It cannot be said that in any case the remuneration is excessive. A city of the importance of Liverpool should have the best talent that is available, and it is not to be obtained without paying for it on a reasonable scale.

A deputation representing the Birmingham Architectural Association, and consisting of Messrs. Newton, Crouch, McEwan and Buckland, were enabled to have an interview with the housing committee of the Birmingham Corporation, asking that henceforth plans for the erection of workmen's dwellings should be thrown open to competition. Alderman Cook, who presided, pointed out, however, that the plans for the proposed buildings in Potter Street and at Bordesley Green were too far advanced for the committee to comply with the request of the architects, but a hint was given them that in any future scheme their views will be favourably considered. It is to be regretted the opportunity was lost, for the erection of an experimental block on the flat system in Potter Street is now under consideration. The plans of four schemes had been prepared, and these provide for the erection of four-storey blocks, each containing from sixty to seventy tenements, with frontages in Potter Street and Staniforth Street. One set of plans was very favourably viewed by the committee, but certain alterations were suggested, and these will be made prior to a special meeting of the committee. An effort is to be made to secure the attendance of every member on that occasion, when the amended scheme, as well as the others, will be further considered. It is hoped that a scheme will then be finally selected for recommendation to the Council.

ILLUSTRATIONS.

JOHN KEMBLE AS CORIOLANUS.

CATHEDRAL SERIES.—YORK MINSTER: THE LADY CHAPEL.

POLICE COURT AND FIRE STATION, BLACKBURN.

SECTION AND PLAN.

The design for the above, illustrated in our issue for to-day, is the conjoint work of Messrs. Briggs & Wolstenholme, of Liverpool and Blackburn, and Messrs. Stones & Stones, of Blackburn, and is the one placed first in the recent limited competition in which two local, one Manchester and three London firms were invited to submit schemes.

The assessor was Mr. A. N. Bromley, F.R.I.B.A., of Nottingham, his report being unanimously adopted.

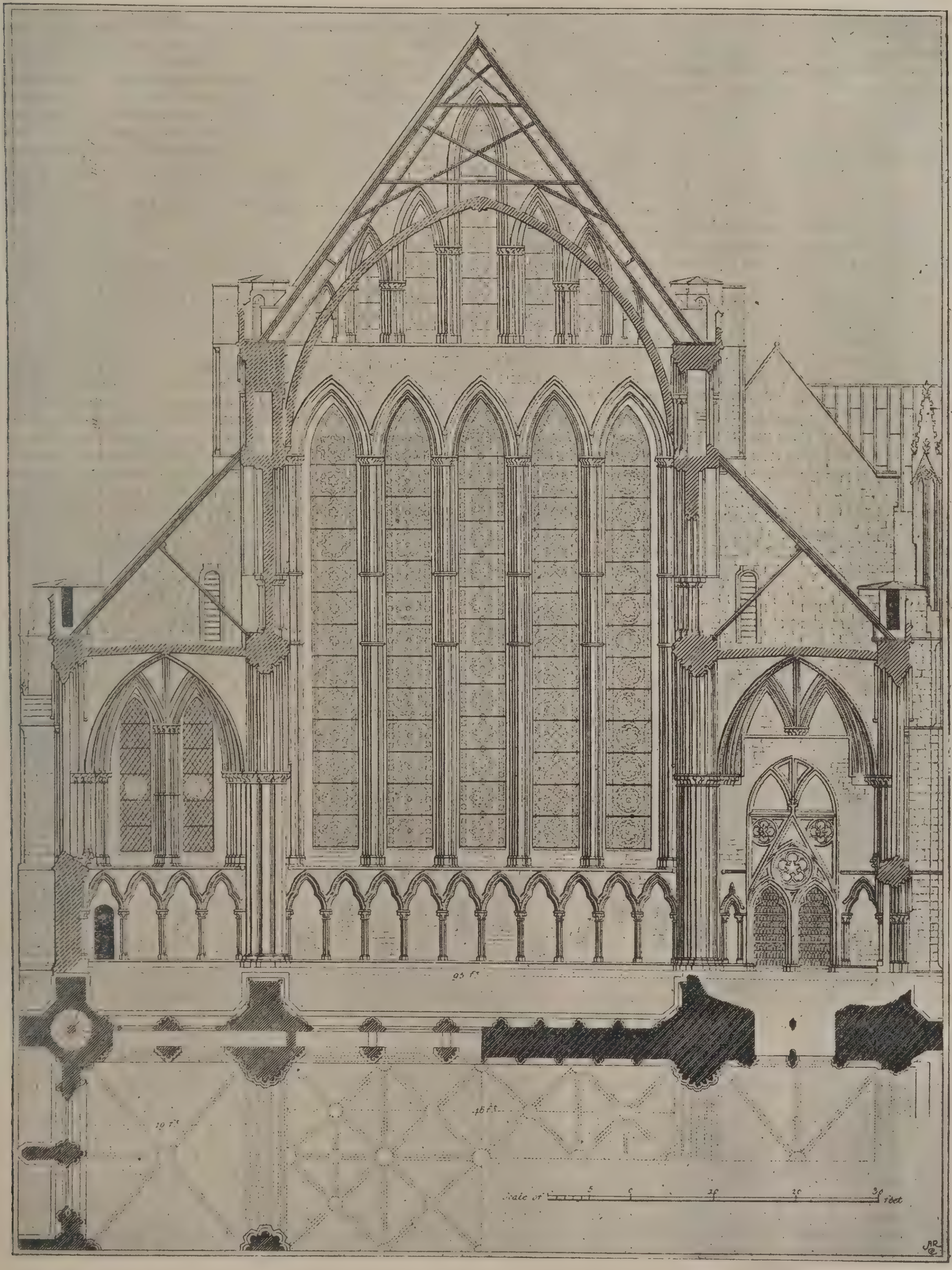
The view is taken from the corner of Northgate and Blakey Moor, the separate blocks presenting a characteristic appearance indicating their diverse use, while a pleasing unity is maintained by the group as a whole.

One of the distinctive features in the plan is the separate building in the rear of the police courts, in which are placed the parade-room, with mess-room, reading-room, recreation-room, &c., over, connected by a covered way on the lower ground floor with the charge office, and on the upper ground floor by a bridge across the police yard, giving the chief constable direct communication from his department and at the same time supervision of all going on in the police and drill yards, the chief constable being the superintendent of the fire brigade. The fire-engine house is flanked by the deputy superintendent and chief officers' houses, the stabling being in the rear and the whole of the workshops and stores conveniently grouped around the covered shed placed between the gateway for returning steamers and the engine house. The firemen's dwellings are to be in Duke Street, leaving a large open space for drill purposes in the centre of the site.

The buildings are to be faced with Accrington bricks with stone dressings, and covered with Welsh green slates, the cupolas being covered with copper. The estimated cost is a little over 40,000*l.*

YORK CATHEDRAL: THE "FIVE SISTERS."

THE geometrical view of the end of the north transept of York Cathedral, from a measured drawing by Pugin, shows the fine window generally known as the "Five Sisters." Many legends have been imagined to explain the title, but the window seems to be no more than a designer's adaptation of space to produce a desired effect. So much uniformity in the openings was not always considered an artistic virtue by the Mediævalists, but there is no window in York which receives more admiration. Mr. Lewis F. Day, in his "Windows: a Book about Stained Glass," says of the window:—"The 'Five Sisters' are rather looser and freer in design than the Salisbury glass, and have broad borders of white. In detail they are certainly not superior to that, nor in general design, so far as one can make it out at all; but from their very size and position they produce a much more imposing effect. Whoever is not impressed by the 'Five Sisters' is not likely ever to be moved by grisaille. They form one huge fivefold screen of silvery glass. The patterns are only with great difficulty to be deciphered. It is with these as with many others of the most fascinating windows in grisaille: the glass is corroded on the surface, black with the dirt and lichen of ages, cracked and crossed with leads introduced by the repairing glazier, until the design is about as intelligible as would be a conglomeration of huge spiders' webs. But for



all that, nay, partly because of it, it is a thing of absolute beauty—as beautiful as a spider's web, beaded with dewdrops, glistening in the sun on a frosty winter's morning. It is a dream of silvery light: who cares for details of design? But it is all this because it was designed, because it was planned by a glazier for glazing, and has all that gives glass a charm."

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute was held on Monday evening last, Mr. E. A. Gruning, vice-president, in the chair.

The Chairman moved a recommendation of the Council that Mr. Wm. Emerson, president, be requested to allow himself to be nominated as president for the ensuing year of office; and that, consequently, by-law 26 be suspended. The by-law states that:—"No president who has filled the office for two successive years (Mr. Emerson has been president since June 1899) shall be again eligible for the presidency until the expiration of two years from the termination of his tenure of office." But the 33rd section of the charter gives power to a general meeting to suspend a by-law by resolution of the Royal Institute confirmed at a subsequent general meeting, held not less than seven and not more than twenty-eight days after the former meeting.

Mr. Alexander Graham seconded the motion, which was carried.

The Secretary announced that three candidates had attended the examination for the office of building surveyor, and the following was successful, viz. Mr. James Edwin Webb, of Nottingham.

Three candidates attended the examination for the office of district surveyor, and those successful were Mr. S. J. Halse, of Fulham, and Mr. F. S. Capon, of Streatham Common.

Mr. FRANCIS BOND, M.A., read a paper, illustrated by lantern views, on

The Classification of Romanesque Architecture.

The author alluded to some of the difficulties which beset the student on his first introduction to the great style which preceded Gothic and was based on Roman work. The subject of the classification of the Romanesque styles was a large one, and could only be dealt with shortly within the limits of a paper. Classifications already existed—those of De Caumont, Quicherat, Viollet-le-Duc, and particularly Anthyme Saint-Paul, were referred to—but they helped one but little forward. It remained to consider whether a wider basis of classification could not be found—one resting on the main facts of plan and structure.

First of all, what was the one thing that the old builders—whatever the schools they belonged to—were trying to do? With the exception of a certain number of them who were attempting to solve the church building problem by following the type of St. Stefano Rotondo at Rome or of St. Vitale at Ravenna, and whose furthest outposts, with the exception of the churches of the Knights Templars and the Knights Hospitallers, are to be found in the churches of Aix-la-Chapelle, Ottmarsheim and Germigny-des-Prés, all the builders of Western Europe, from the ninth century, when Romanesque architecture commenced, to the twelfth century, when it was superseded by Gothic, were engrossed with one supreme problem—how to vault a basilica. This was the master-problem of the builders of the Middle Ages from the end of the ninth to the middle of the twelfth century. The amount of engineering skill, the ingenuity and the variety of the solutions proposed were astonishing. They seemed never to have had their full due. Gothic architecture got nearly all the credit. As a matter of fact, every single one of the main difficulties inherent in the task had been effectually met—and met in more than one way—before the first Gothic architect ever handled a trowel. Early in the twelfth century, or before, at least five complete solutions had been arrived at, as may be seen at Le Puy, Tournus, Cluny, Speyer and Durham.

The problem how to vault a basilica meant (1) that there were to be aisles as well as a high nave; (2) that some form of vault construction was to be devised; (3) that since a vault of stone was heavy, piers must be substituted for graceful but weak Classical columns; (4) that the thrusts of the high vault of the nave must be stopped in some way by abutment in or above the aisles; (5) that top-lighting by clerestory windows was to be retained; (6) that the outer surface of the vault must be protected from the weather.

1. In most cases one or more of these conditions were evaded. One school—the most ancient of all, which held the whole of the field till the ninth century—simplified the problem by omitting the vault and retaining the colonnade.

2. A second solution—also very incomplete—was to omit the aisles; to build a hall-church roofed with a tunnel vault. This simplified the question of supports, for it substituted solid walls for hollow arches, any amount of clerestory light could be introduced, and the walls could be thickened to any extent to provide continuous abutment to the thrust of the great tunnel vault. Everywhere it was the natural and proper solution where only a small church was required, but it was employed in Provence even in churches of cathedral rank.

3. A third method, represented by the school of Périgueux, also removes the difficulties of supports, abutment and top-lighting by eliminating the aisles. It presents us with another variety of hall-church, roofed, not with a tunnel, but a row of domes, and it is to be noted that the corners of each square bay of the nave are filled in with pendentives to support the dome.

4. The next method is found only in the church of Loches, near Tours. Originally there was a low tunnel-vaulted nave, without aisles, of the eleventh century. But about 1160 the eastern portions of the nave were pulled down, two square bays were formed, and on these bays two spires were erected.

5. In two churches of the first rank a row of domes was employed to roof an aisled nave. The nave was spanned by a series of strong arches. These were so placed as to divide the nave into square compartments. On each square an octagonal dome was poised, the corners of the square being filled up with corbelling or squinches to afford support all round to the base of the dome. The typical example of this is the wonderful cathedral of Le Puy, the nave of which is roofed by a row of six domes on squinches.

6. The next method may be distinguished as the arch-and-lintel system. Strong transverse arches were built across the nave about 9 feet apart; a wall was built on each arch rising up to the apex of the arch, and then lintels of basalt were laid longitudinally, *i.e.* from west to east. Count Vogüé has fully illustrated this curious phase of architectural history in *La Syrie centrale.*

7. We next come to a whole series of attempts to solve the problem by covering an aisled nave with what is called a tunnel, waggon, barrel or cradle-vault. Of these the most scientific is that of Tournus Abbey church. As in the churches of Syria the nave was spanned by stout arches, each arch carrying a wall. But each pair of these walls instead of carrying lintels, as in Syria, carries a short tunnel set transversely.

8. We now come to the vast number of churches in which the tunnel-vault of the nave was placed longitudinally, *i.e.* in the direction of the axis of the church. The naves vaulted with longitudinal tunnels may be divided into those (*a*) where the tunnel rests on a pier-arcade; (*b*) where the tunnel rests on the arches of an upper vaulted aisle; (*c*) where the tunnel rests on a wall pierced with clerestory windows.

9. Such interiors as that of Notre-Dame de Poitiers were painfully low. It would have been dangerous, however, to raise the tunnel much by increasing the height of the piers. So, in Auvergne especially, the expedient was hit upon of building two aisles instead of one, both vaulted; then the tunnel could spring at a much higher level. Moreover, some of the gloom of the Poitevin type of nave could be dispelled by piercing the back wall of the new upper aisle with windows.

10. The first step to carry out the one unfulfilled condition in the problem—the provision of clerestory light—was taken by piercing the base of the tunnel itself with clerestory windows. The final step—a most important change—was to insert the windows wholly in a clerestory wall. This latter seems to have been accomplished independently in the south, in Provence and Languedoc; in the north, in Burgundy. The clerestory was already in use in tunnel-vaulted churches in the eleventh century at Saint-Guilhelm-du-Désert, in the Southern Cevennes; and in Burgundy on a small scale at Saint-Benoît-sur-Loire (commenced 1062), and on a gigantic scale at Cluny (commenced 1089).

11. This solution, which was destined, within a generation or two, to culminate in the Gothic architecture of Saint-Denis (1140), consists in covering a nave with unribbed groined vaults.

12. The final step was to substitute the ribbed for the groined vault, to dispose the vaulting compartments of the nave in oblongs, to facilitate the vaulting of these oblongs by the application of the pointed arch, and to transmit the thrusts of the high vault by means of flying buttresses to the buttresses of the aisle walls. To this, Gothic architecture added three developments: (1) It weighted the buttresses with pinnacles; (2) to a large extent it replaced the masonry of the walls by glass; (3) in Durham nave, the Abbaye-aux-Dames and elsewhere abutment was sometimes provided by flying buttresses disposed beneath the aisle roof. In Gothic the flying buttresses are placed above the aisle roof.

13. This method, which consisted in omitting the vault, was no solution at all. The nave is not constructed in genuine basilical fashion, as in the first method, but is built as if a vault were intended. The home of this unworthy construction is Normandy.

Of the above solutions of the vaulting problem, the third, the employment of a dome resting on pendentives, is by itself a full and satisfactory criterion. It occurs nowhere except in a group of some thirty-five churches in the district of Périgueux, with such "outliers" as Fontevrault and Angoulême. No. 2, the hall-church, is most common in the south-west and south of France, from Poitou to Provence. It may be vaulted either with a longitudinal tunnel or with groined or ribbed vaults. No. 8, where a tunnel vault rests directly on the pier arches, occupies much the same districts as No. 2. No. 9, where the tunnel rests on the arches of an upper-aisle, extends from Clermont-Ferrand, in Auvergne, to the south-west as far as Conques and Toulouse. No. 10A, where the tunnel is combined with a triforium and clerestory, is the final development reached in Burgundy. No. 10B, where there is tunnel and clerestory, but no triforium, is the solution of Provence and of Piedmont. No 12, the ribbed vault, occurs sporadically, except in Germany and Lombardy, where it is characteristic. No. 13, the unvaulted nave, was nearly universal in Normandy and England till the twelfth century was well advanced.

The author went on to consider how these eight divisions will stand other tests. A very important test is afforded by the planning of a church, especially of its eastern limb. It must suffice to trace four main types of choir-plan. The first is that with three parallel eastern apses, of which there is a variant with square-ended aisles, as at Cerisy-la-Forêt, and another with aisles square externally and semicircular internally, as at Romsey. This is pre-eminently the plan where the unvaulted nave prevails, viz Normandy. It is frequent in Lombardy and in those Provençal churches that have aisles. A second plan is that of the ambulatory and "chevet." It is rare in Germany, Lombardy and Provence, and non-existent in Normandy (excluding England).

The plans alone, apart from other considerations, would entitle Germany to rank as a distinct architectural province. In Provence the aisled churches generally have three parallel eastern apses.

The divisions may be tested again by the treatment of the central tower; (1) its vaulting; (2) its shape, whether square or octagonal.

The Romanesque builders had three forms of vault at their disposal in the eleventh century: the groined vault, the tunnel vault and the dome. The most difficult problem they had to cope with in vaulting was the question of putting a vault over the crossing, resting, not on walls, but on four unbuttressed legs. They had hardly dared yet to put a groined vault over their naves, fearing its concentrated thrusts. Their favourite tunnel vault could not be used at all at the crossing, for it needed solid walls for its support. They had perforce to use the dome in all cases, I think, except in the Périgueux district, resting on squinches. Secondly, they had to stop the thrusts of this dome by carrying up a central tower to weight the arches or walling on which the dome rested. As regards the shape of this tower, they had two alternatives. The crossing was square, and so the tower over it might be square, as was the great central tower of Cluny and that of Tournus. But the squinches reduced the square of the crossing to an octagon, and as the tower rested directly on the octagon, and not on the square, it was more natural that the tower also should be octagonal Hence that magnificent series of octagonal central towers in Burgundy and Southern France, Germany and Lombardy, culminating at Mayence and Saint-Sernin, Toulouse. In Normandy and England, on the other hand, the builders hardly ever dared to vault their naves at that early date, and never the crossing. And there being no dome in an Anglo-Norman tower it is square.

Another test is afforded by the grouping of the towers. (1) The glorification of the tower reaches its highest pitch in Germany. Six towers are found at Speyer, Worms and Laach, seven at Limburg. (2) In Burgundy the magnificent tower group of Cluny seems to have remained without a rival. Its daughter churches were satisfied with a triplet; an octagonal central tower and two square western towers was the favourite arrangement. The towers have several stages, similar in form. (3) In Normandy also the triplet was the favourite, but the central tower was square, and not domed internally. (4) In Poitou the characteristic is the conical spire, "en pomme de pin," which often surmounts the tower. (5) In the Périgordian region is seen the same conical spire, together with the characteristic cupolas. (6) In Provence "a simple square tower is common, with a very low spire." But some have central octagons. (7) In Auvergne a specially characteristic arrangement is that of a square western tower in the centre of the façade and a central octagon. (8) In Northern Italy the campanile type greatly predominates, and where the massive Romanesque tower is found it is usually divided (in campanile fashion) into very numerous stages. Nowhere, except in the Como churches, does the campanile form part of the structure of the church; often it is quite detached.

Summary.—We may discriminate the following eight schools of Romanesque:—I., the Périgordian; II., the Poitevin; III., the Provençal; IV., the Auvergne; V., the Burgundian; VI., the Norman; VII., the German; VIII., the Lombardic.

As regards the above classification, one word of caution is necessary. In speaking, *e.g.* of the style or school of Auvergne, it is not meant that all the churches in Auvergne were built in this style, or that there were no such churches outside Auvergne, but merely that such churches were more common in Auvergne than elsewhere, and may therefore for convenience be described as belonging to the style or school of Auvergne. Also that those features described as characteristic were not invariably found, they were merely those which occurred most frequently.

One is tempted to try to work out the relations to one another of the different schools. Certain resemblances are patent. The superposed aisles link the style of Lombardy to that of Auvergne; German Romanesque is connected with Lombardic on the one hand and with Norman on the other. But a much more exhaustive classification is necessary before any results of lasting value are likely to be obtained.

Still stronger is the temptation to inquire into the origins of all the Romanesque styles; whether they are derivatives, as some have held, from Provence, or, as others have held, from Lombardy. Such architectural pedigrees are not as a rule trustworthy. And there always remains an alternative hypothesis, which seems to have within it much of truth, viz. that the styles were none of them mainly derivative, but that the same problem was engaging all the different regions more or less simultaneously; that the builders of each region were solving it with some little light, indeed, from their neighbours, but mainly independently, by empirical experiments of their own, aided by the survival here and there of traditions of Roman construction and by the study of local Roman monuments.

Another caution requisite is that the classification does not cover the whole ground. This is necessarily so Between each region and the next there was always a debatable ground, where two or more styles would be in simultaneous use Indeed, a "pure" region would be the exception; the greater part of the area of any one country would employ mixtures of style. England is an instance.

It had always been customary, the author believed, to regard the Romanesque of England and Normandy as one. The Romanesque of Normandy, however, seemed to be a pure style, and that of England a "mixed" style While by far the most important factor is the influence of such pre-Conquest churches as Bernay, Jumièges and the Abbaye-aux-Hommes, we must also attribute some degree of importance, at any rate in the planning, to the highly developed Romanesque of Auvergne and Burgundy.

A vote of thanks, proposed by Lieutenant-Colonel Prendergast and seconded by Mr. R. Phené Spiers, concluded the proceedings.

The National Memorial.

A special general meeting will be held in the meeting room of the Institute on Monday, the 29th inst., at 8 P.M., to consider various resolutions as under, submitted by Mr. Wm. Woodward:—(1) That in the opinion of this meeting the proposed National Memorial to Queen Victoria should be open to the competition of all British—including of course Colonial—architects, sculptors and artists. (2) That the first designs should be in the hands of the committee at the date already fixed—viz. the end of June next—and that from those designs six should be selected, the authors of which should be engaged to perfect their schemes, and submit them at a date to be decided upon by the committee. (3) That the author of the design selected from the six should be employed to carry out the work in collaboration with the sculptor, or sculptors, whom the committee may designate. (4) That in the event of the Memorial being thrown open to general competition, as above suggested, the information furnished to the five architects already appointed, for their guidance in the designs, be immediately made public. (5) That the whole of the preliminary designs, as well as the subsequent perfected designs, be publicly exhibited (6) That these resolutions be at once transmitted to the Viscount Esher with a request that they be laid before His Majesty the King.

BRISTOL AND GLOUCESTERSHIRE ARCHÆOLOGICAL SOCIETY.

A MEETING of the members of the Bristol and Gloucestershire Society has been held at Gloucester. The members of the committee appointed to make a descriptive list of Bristol and Gloucestershire monumental effigies visited the cathedral, and were, with a large number of members who accompanied them, received by the Dean. The monument of Abbot Serlo in the choir was first inspected, and afterwards those of Abbot Seabrook, who built the present tower of the cathedral; Abbot Gouldsborough, in the lady chapel; of Abbot Parker, King Oswic, King Edward II. and the many others in the cathedral. In connection with the effigies of John Bower and his family, the Rev. W. Bazeley related a peculiar circumstance which recently occurred, and which, as he remarked, savours of romance, but the truth of which is vouched for by Mr. Cooke and others who were present. They were passing the monument when the attention of Mr. Bazeley was attracted by something extraordinary about the head of the figure of John Bower, and which caused him to exclaim, "The head is coming off." He had only just said the words when the head did fall, and he was just in time to jump on the stone seat beneath the monument and save the piece of sculpture from falling to the ground. The head is of stone, and is fastened to the body at the ruffle with an iron rod, which from some cause or other had become loosened.

In the evening a lecture was given at the Guildhall by the Rev. W. Bazeley on the recent excavations on the site of the Cistercian Abbey of St. Mary Hayles, near Winchcombe. The present excavations had disclosed a church (a ground plan of which has been executed by Mr. Brakspeare, architect), which is 5 feet longer than Gloucester Cathedral without the lady chapel, and there is still a large tract of ground to be uncovered. The Society has voted 20*l.* towards the excavation, which has become a subject of national importance. The lecturer showed that the Abbey of Hayles was founded in 1236 by Richard, Earl of Cornwall, brother of Henry III., and the founder transferred thither twenty monks and ten lay brethren from the Abbey of Beaulieu, in Hampshire. The church was finished, as a short chronicle in the British Museum testified, in 1251, together with dorter, cloisters and frater, at a cost of 8,000 marks, and was dedicated to God's service on November 9 of that year, Henry III. and his queen, Earl Richard and his wife, Sanchia, sister of the queen, being present. Thirteen bishops, whose names and dioceses are given in an ancient manuscript preserved in the library of Wells Cathedral, said mass, each at his own altar, Grosstete, Bishop of Lincoln, consecrating at the high altar. Many interesting facts, culled from ancient documents relating to the history of the abbey, were given, some of them being very tragic. On March 12, 1271, for example, Henry of Almayne, eldest son of the founder of the abbey, was murdered by his cousins in the little church of San Sylvestro, at Viterbo, during mass. The flesh of the ill-fated prince was buried between the tombs of two pontiffs in the church of Santa Maria dei Gardi; his heart was placed in a golden vase and enshrined in the tomb of Edward the Confessor at Westminster, and his bones were conveyed in a leaden coffin to Hayles Abbey and buried near the high altar, where Sanchia had been previously interred. The terrible and untimely death of his son so upset Richard that he died broken-hearted a year afterwards, and was buried in the presbytery beside Sanchia, his queen. The last Abbot of Hayles was Stephen Sagar. Most of the possessions of the abbey were granted to Admiral Seymour. The latter part of the lecture dealt with the work of excavation, and was illustrated by about fifty lantern slides.

Mr. F. F. Fox, in proposing a vote of thanks to Mr. Bazeley, said that nobody who was not thoroughly conversant with archæology, history, architecture and heraldry could have given them such a deeply interesting lecture.

Mr. William Dancey, in seconding, said that it was proposed by the Society to get up excursions to Hayles by coach, that the public might see what was there.

The vote was unanimously accorded, and the Rev. W. Bazeley returned thanks, saying what great pleasure it gave him to interest others in a work in which he himself was so deeply interested.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. W. H. Seth-Smith, president, in the chair.

Mr. H. Le C. Browning was elected a member.

The President said *à propos* of the Queen Victoria Memorial that the Association had decided to send a letter to the committee suggesting that the competition should be a wider one. As a general meeting was to be held shortly by the Royal Institute of British Architects to consider the matter, the Association had resolved to postpone any inquiry until the President of the Institute had made known what steps he had taken in the matter.

Mr. M. A. GREEN read the following paper entitled

The Eighteenth-Century Architecture of Bath.

In this paper we are mainly concerned with the period between the years 1727, when the elder Wood came to Bath, and 1781, the date of the death of his son. But it is necessary to review the work which preceded and which followed theirs, and therefore we will take a survey of the principal buildings erected from the very beginning of the eighteenth century to its close, including the names of those who were sometimes competitors with, sometimes followers of, these two men.

But to go back still farther in time for a few moments. In his "History of Bath" Wood shows a map which, he says, is "a copy of Dr. Jones's view of the city of Bath as it was published in the year 1572," really of a Dr. Johnson's. Here the city can be seen in delightful simplicity, surrounded by its walls, of which we have now few traces except in name, a piece in the Upper Borough Walls and the Eastgate, with a portion till lately adjoining, being the only relics above ground, unless there are remains built into any of the houses. The size of the city at this time was about 1,200 feet from east to west and 1,150 feet from north to south.

By 1590 the city was much enlarged, and by a charter granted by Queen Elizabeth extended from the bridge over the Avon at the bottom of Southgate Street, along the middle of the river as far as the meadow called Kingsmead, and thence to the highway leading from Weston to Walcot, and so to the Win Yards, or Vine Yards, thence by Walcot churchyard, and so along the middle of the river back to the old bridge.

A word here as to the Bath waters. Wood says :—

"About the latter end of September in the year 1663, the King (*i.e.* Charles II.) brought his Royal Consort, Queen Catherine, to Bath ; Sir Alexander Frayser, as chief physician, attending them hither, who, upon finding the hot waters to be from the same minerals as those of Bourbon, and that they could be pumped up directly from the spring, began to advise the inward use of them, sending all such patients to the hot fountains of Bath as he had before ordered to those of Bourbon, whereby the fatigue and expense of a long journey from the Britannic Island to the heart of France, as well as the danger of crossing the sea, was avoided, to the private advantage of the subjects of Great Britain and to the public advantage of the kingdom.

"From this period the drinking of the hot waters of Bath may be very justly said to have been established, and from the same period the trade of the city began to turn from the woollen manufacture to that of entertaining the strangers that came to it for the use of the hot waters"

In 1702 and 1703 Queen Anne and her royal consort, the Prince of Denmark, came to Bath, and thereupon so many people of rank and fortune came also that the villages around were filled with them, and many had to pay a guinea a night for their beds. In the following year Dr. Oliver began to write on the Bath waters (he was by no means the first to do so), and in consequence the Corporation improved their surroundings somewhat, but they still fell short of the doctor's wishes, and in 1707 he published a practical dissertation, at the same time recommending the making of a cold bath for the use of the public Says Wood :—"Mr Thomas Greenway, one of the Freestone Masons of the city, directly engaged upon the work and made a handsome bath in one of the rooms of a house built by him upon the beach at the foot of Beaching Cliff The bath was supplied by a spring of water which issued out of the ground at a place where the rays of the sun could never reach till after surmounting the equinox." Beaching Cliff is one of Wood's misnomers ; it is really Beechen Cliff, from the beeches planted upon it.

About this time Parliament was applied to for power to amend the principal roads leading to Bath, to pave, cleanse and light the streets, lanes, &c, of the town, and to regulate and license a sufficient number of chairmen that nothing might be wanting for the public utility of the city.

"Twenty years," says Wood, "had now been spent in improving the private buildings of the city ; in the course of which improvements, thatch'd coverings were exchanged to such as were tiled ; low and obscure lights were turned into elegant sash windows, as soon as Mr. Taylor (who was by the way a chairman) had set the example ; the houses were raised to five and more storeys in height ; and everyone was lavish in Ornaments to adorn the outsides of them, even to profuseness" But with all this splendour little attention was paid to the wants of the company that assembled at Bath until Harrison's Rooms were built in 1708. In spite of a reaction on the part of the citizens because of the increase in the numbers of the houses, Mr. George Trim, a member of the Corporation, and whose mother was a near relative of Inigo Jones, began in 1707 to build the street named after him at the north-west corner of the city. It was in a house in Trim Street that General Wolfe lived, who was in Bath when he received intimation that he was to command the expedition to Quebec. Note the group of warlike emblems in the tympanum over the door

On the other side and farther down the street are some houses built in 1727 and restored in 1897.

Trim Bridge, or St. John's Gate, is the connecting throng between the Upper Borough Walls and Quiet Street.

The houses about this period are characterised by the large windows with projecting wave mouldings round them. Of such is the Saracen's Head in Broad Street, with initials W D and date 1713 upon it It was here that Dickens used to stay

The oldest house in this street is No. 38, date 1709, and almost identical with it in elevation is one in Chapel Court. I think these are by far the best of the older houses in the city, and their dignity is probably due to the very large window spaces and the number of openings. Whatever may be the cause of it, there is undeniably good proportion shown in them. In the St. Catherine's valley there are entrance doors of the same type, with unusually wide and massive bolection mouldings.

In 1716, on the site of the new bowling green, a row of houses was begun, and was called Green Street. It is one of the most picturesque parts of Bath now remaining The detail at times shows a free Classic treatment, and there seems to have been a distate for bare wall space which has led to a full enrichment of these small façades. The sashes are also divided into small panes, with wide glazing bars

There remains in Westgate Street an inn called the Bunch of Grapes, which has a fine plaster ceiling dating about 1680-1700, but the front facing the street was rebuilt, together with other houses in the neighbourhood, about twenty years later, *i e.* just before Wood began his work. In the adjoining house the orders are used—the Ionic and Corinthian remaining on the first and second floors, the Doric having been most likely used on the ground floor.

Meanwhile, another citizen had been building in the south-east corner of the city.

In a house in St. James Street South small panes of glass still remain in the lower windows; these make at once a feature in the design, whereas in the upper lights, where plate glass has been substituted, the windows seem to lose their identity with the building

Hard by is Weymouth House, which was built in 1720 for a Dr. Bellinson, and was designed by William Killigrew. Weymouth House was the residence of the Thynne family, whose descendant, the Marquis of Bath, is still its owner

An almost exact copy of Weymouth House is to be found in No. 3 St. James Street, but the consoles which support the pent over the door are here carved into griffins, which were never executed in the former.

Nearly opposite to Weymouth House is a curiously rusticated building, which was once Crutwell's *Bath Chronicle* office. The Orders are used, as seen frequently, to make a central feature, but the treatment is not good. A writer in 1819 says:—"This newspaper was always considered one of the most elegant printed provincial journals in the kingdom Mr. Crutwell, in commemoration of her late Majesty's visit to Bath, had a new type cast expressly on purpose, and everything to correspond, so as to produce a chef d'œuvre in newspaper printing, and who had the honour of presenting it to her Majesty, who most graciously received the same, and expressed her approbation, not only upon this compliment offered to her on her visit to Bath, but of the great improvement made in this department of literature."

Near here, in Abbey Gate Street, are two shell heads serving as pents for the doors.

The best rain-water head which I have seen in Bath came from the houses pulled down a few years since on the south side of Orange Grove, and has a date 1703 or 1709 scratched upon it faintly.

We must here notice old Widcombe Manor, built for Mr Philip Bennett's son in 1727. The builder was likely to have been the Thomas Greenway who put up Beau Nash's house in St. John's Court, now the theatre. The great feature of this house is the treatment of the order which embraces two storeys, and which appears rather large, seeing that it is almost impossible to view it from a distance. The canted bay on the south side, with the projecting balcony, was an addition in the middle of the nineteenth century. Note how the base moulding of the pilasters ramps down as it leaves the house and becomes the coping of the balustrade in the garden. The interior shows a hall with a flat arch thrown right across it, and a wide staircase with moulded and twisted balusters rising in groups of threes and set close together. At the top of the stairs all the pilasters and arches are carried out in wood. This gives a somewhat wiry appearance to what would otherwise be a good architectural feature.

The garden house here is a refined piece of work. The ground storey facing the garden has three arches, which were originally open to the ground. Between the arches are engaged Doric columns, and the upper part has merely an Ionic column at each end of the wall, and is severely simple; nevertheless, the firmness of the mouldings more than atones for any want of ornament.

From a comparison of this building with the Palladian Bridge in Prior Park, I am disposed to think they are both by the same hand, and that if the Palladian Bridge was designed by Wood, then this little house was also.

Inside there are three recesses for seats, and the whole except the ceiling is built in stone

The dovecot, also entirely of stone, lies near the stables, and is a most interesting feature.

The building called the Garrick's Head, and now known as the theatre, was at one time the residence of Richard Nash, M.C. of Bath. Nash had a chequered career. Born in Swansea in 1674, he went to Oxford at the age of sixteen, and, having tried the law and the army in turn, finally entered the Temple. In 1704, however, he came to Bath, and on the death of Captain Webster he was appointed M.C.

This house, situated in what was known then as St. John's Court, was built in 1720 by the Thomas Greenway above mentioned, and after whom Greenway Lane is named. The treatment of the windows of the second floor in connection with the cornice is very unconventional. The dies at the angles are now the only parts remaining to show the existence of a former balustrade. On the right will be seen the doorway of Beau Nash's house.

After Nash's power had declined he removed to another house just north of the last, the chief feature of which is its elaborately ornamented doorway, and here he died in 1761, aged 87.

On the other side of the theatre are Beaufort Buildings, which Wood says are the piratical architecture of a Mr. John Strahan, a friend of Mr. Hobbs, a timber merchant of Bristol, whom we mention below.

Londonderry House and Kingsmead Square were also built by John Strahan.

In 1723 another Act was obtained for Bath relative to lighting, cleansing and other things, and to make the former Act more effectual; and "in 1724," says Wood, "a subscription was opened by Mr. John Hobbs, a deal merchant of Bristol, for carrying the navigation of the river into execution, so that when I found the work was likely to go on, I began to turn my thoughts towards the improvement of the city by building; and for this purpose I procured a plan of the town, which was sent me into Yorkshire in the summer of the year 1725, where I, at my leisure hours, formed one design for the ground at the north-west corner of the city, and another for the land on the north-east side of the town and river."

It is proper to mention here that little is known of John Wood's early life. He was born in 1704, and it is probable that he was introduced to Bath through the influence of Ralph Allen, who may have met him while in Yorkshire, for it is there, as we have seen, that a plan of the city was sent to him. He was thus at this time but one and twenty years of age.

"After my return to London," he continues, "I imparted my first design to Mr Gay, an eminent surgeon, in Hatton Garden, and proprietor of the land; and our first conference was upon the last day of December 1725. On March 31 following I communicated my second design to the Earl of Essex, to whom the land on which it was proposed to be executed then belonged; and in each design I proposed to make a grand place of assembly, to be called the Royal Forum of Bath; another place, no less magnificent, for the exhibition of sports, to be called the Grand Circus; and a third place, of equal state with either of the former, for the practice of medicinal exercises, to be called the Imperial Gymnasium of the City." In May 1726, during the consideration of the drawings, a great fire broke out in Horse (or South-gate) Street, and the larger houses that took their place were the last built before 1727.

In November of 1726 Wood fixed his preliminary articles with Mr. Gay, who then empowered him to engage with anybody that he could bring into the scheme for the building of a street 1,025 feet long north to south by 50 feet east to west, for a way to the grand part of the design. This was Barton Street, but at first it did not go forward, and Wood having two other schemes on hand, and finding it necessary to have good workmen, determined to become his own contractor. The first scheme was the building of a court of houses for his Grace James, Duke of Chandos, and the second was a canal between Bath and Bristol For the canal he obtained men who had been on the Chelsea Waterworks, and he says "that until that time the real use of the spade was unknown in and about the city." "I likewise," he says, "provided masons in Yorkshire, carpenters, joiners, and plasterers in London and other places, and from time to time sent such as were necessary down to Bath to carry on the building that I had undertaken; and it was then, and not till then, that the lever, the pulley, and the windlass were introduced among the artificers in the upper part of Somersetshire, before which time the masons made use of no other method to hoist up their heavy stones than that of dragging them up with small ropes against the sides of a ladder"

At that time he was asked to prepare plans for dwelling-houses, an assembly house and a general hospital, and in 1727 he left London altogether and followed his workmen to Bath.

In 1727 Chapel Court was begun. The house to the left is that in which Horace Walpole lived in 1765, and the wing to the right St John's Hospital or the Blue Arms, designed by Wood in 1728

In the former is a characteristic fireplace of the period, with fine castings on the grate.

The death of the king (George I.), however, causing Mr. Gay to fall from his bargain, and the Corporation making light of Wood's schemes, the latter dropped his agency, became absolutely his own master, and took ground from Mr. Gay for the building of Queen Square, so named in honour of Queen Caroline. John Street took the place of Barton Street, and Barton Street was what is now the east side of Queen Square and part of Gay Street, as well as the portion to the south.

At this time (1728) he was building an addition to the north side of R. Allen's town house in Lilliput Alley, putting also a new front to and raising the old building a storey higher. There was thus a basement storey, and, as in Queen Square and later on by his son in the Crescent, an order rising through the two storeys over with one crowning cornice, and he says that it was "a sample of the greatest magnificence that was ever proposed" by him for the city houses.

The house now presents only two sides, north and south, and even so the south wing has been entirely severed from the main building. Inside there appears to be nothing of note remaining. It was here that Allen kept his clerks, who were engaged in the business of the cross posts After Allen's death in 1764 the house was neglected, although retained for some twenty years afterwards for postal business.

In 1730 the houses of the Duke of Chandos, called Chandos Court, were being erected. They were to form three sides of a square with a garden in the middle. The strictly symmetrical elevation is a good feature in this design, which is crowned with a fine pillowed frieze and cornice

Chandos House had been rebuilt in 1727 for the duke.

The staircase leads to the large hall over.

Queen Square was in reality Wood's chief delight. The first side built was that on the east, which was begun in 1728 The whole was finished in seven years' time, including the chapel and many houses adjacent. The ground was originally intended to be level from top to bottom, but to save expense was afterwards allowed to slope southwards. The centre was to have a low enclosing wall bearing a balustrade, inside this a border of flowers and then a basin of 45 feet diameter supplied with water from a spring close by, but which was soon intercepted by someone who "penetrated the ground for vaults in the very line of it." Espaliers of elm and lime trees enclosed the four quarters, and within were flowering shrubs. The diagonal walks were covered with turf and the other walks with gravel The basin in the middle had an obelisk 70 feet high rising out of it, and on a dark marble stone on the south side of the obelisk and level with a man's eye was the inscription, "In memory of Honours conferred, and in Gratitude of Benefits bestowed on this City by His Royal Highness, Frederick, Prince of Wales, and His Royal Consort, in the year 1738. This obelisk is erected by Richard Nash, Esq." Wood confesses that this square, when planted, somewhat obstructed the view from the opposite sides of the houses, but he adds that the intention of a square is for people to assemble together, and that it should be separated from the ground about it.

The width of the square from house to house is about 315 feet.

You may know his thought in making the grand façade, as we may call it on the north of the square; it was to be, as it were, a palace, and the east and west sides the wings. The vases on the pediment have disappeared. The original intention is shown in the plate from his own book. The design, as usual with him, was a simple one—a rusticated basement with the Corinthian order over, and a large crowning cornice, just as in Ralph Allen's house, and yet from its treatment so different in effect, as was fitting to a widely extended façade such as this. The windows have alternately triangular and circular pediments, as in a similar storey in the Farnese Palace at Rome, and it will be observed that the masonry of the lower storey has a vigorous effect on account of the boldness of its rustication; at the same time there are refined and beautiful impost mouldings at the level of the door and window heads. A bronze tablet has been lately put up on the centre house to mark the residence of the elder Wood. It was here that he died on May 23, 1754, and here also his widow deceased some twelve years later.

The house on the extreme right has furnished me with two details, the first being that of a staircase, where we may note that, as in Widcombe House, the balusters are arranged in rising groups of three to each step; and the other a ceiling on one of the upper floors in plaster. There was no shirking of finish in the case of John Wood's builders, though the work was often of a speculative nature.

The east wing was completed with little alteration from the original design, but the west had to be altered in order to get the building taken up, and it was divided into three main blocks, the centre one being treated with the Ionic order and having a decidedly Greek feeling about it.

At the south-west angle of Queen Square stood the chapel of St. Mary, of which the token here shown gives a good general idea, seen more in detail on an old photograph which was kindly lent me. Ionic capitals from the interior yet remain on the site of the chapel. Dr. Hunt had tried to get St. Michael's Church rebuilt instead of having another chapel, but as the parishioners of St. Michael's rejected all such proposals, Dr. Hunt gave up his point and promised to support Wood in his new design. Immediately the proposal was made to build this chapel Wood had applications for ground for no less than seventeen houses. He approached Mr. Gay, the patron of the Rectory of Walcot, for the purpose of procuring a lease of the land required, and on March 25, 1732, at Mr. Gay's request, he laid the first stone, and the work was pushed forward and completed at the end of 1734. The inside was of the Ionic order—67 feet long, 48 feet broad and 36 feet high—the outside of the Doric order, and the whole structure, with its furniture, cost about 2,000*l.*

In 1729 Wood built a villa called Eagle House, at Batheaston, where he lived for some time. The house has been much altered, but a fine original doorway now remains, which has been applied to the south side of the house The head on the keystone is that of Queen Caroline, wife of George II. An eagle carved in stone surmounts the frontage to the road. The younger Wood died here in 1781.

While mentioning the works of Wood outside the city, it will be well to include two or three more houses which he built at various times.

The little house called Lilliput Castle was built, as the legend on the engraving says, by Mr. Jerry Pierce in the year 1738, against the north end of Mons Badonca—that is, Lansdown—and formed the nucleus of what is now known as Battlefields, standing about a quarter of a mile below the monument. From its form the wits of Bath called it T. Totum. The whole structure was but 120 feet square. Much to the regret of our architect it suffered from two fires, and was afterwards altered.

At the south end of the Kingsdown, at Bradford-on-Avon, stands Belcombe Brook Villa, built in 1734 for Mr. Francis Yerbury. The situation is extremely pleasant, the grounds sloping down to the river Avon, and it was here that Wood showed himself to be a master of landscape gardening. To the right of the courtyard is a stone-built dovecot, and the paving in the courtyard is as originally laid. From each angle of the house a balustrade runs diagonally into the garden, following the slope of the grounds.

The elevation is finished with a pediment supported by four Ionic pilasters, the lower windows being well treated with triangular pediments and close balconies, and the upper ones having moulded architraves only. It is 37 feet wide and 24 feet deep.

At Bathford, on an eminence of Kingsdown, and looking north-west, is to be found one of the most finished of Wood's buildings. Titan-Barrow Loggia was erected some fourteen years after Belcombe Brook Villa, in 1748, for Mr. Southwell Piggott. In its central part it bears some resemblance to the general treatment of the latter, though the Corinthian order is here used and small wings are added, the whole front being 46 feet wide. The drawing-room is of such a height as to include the half-storey.

It appears to me that this building would have gained much in dignity if it had been raised on a substructure, though on the spot the want of it is to a great extent lessened by the fact of a terrace of grass in front of the house being carried down very abruptly, and it is from the ground at the foot of this terrace that the finest point of view must be obtained.

(*To be concluded.*)

SHROPSHIRE ARCHÆOLOGICAL SOCIETY.

THE annual meeting of the Shropshire Archæological and Natural History Society was held in the Music Hall, Shrewsbury, on the 17th inst. Lord Forester presided.

The Rev T. Auden (chairman of the Council) said that the statement of accounts for the year showed a surplus of 5*l* 19*s.* 5*d*, and there were some subscriptions still unpaid, so for almost the first time in the history of the Society they had a slight balance in hand. During the past year the Society had spent a considerable sum in renewing the fence round the excavated portion of Uriconium, which had become dilapidated; and though circumstances had not yet shown themselves favourable to recommencing the excavations, the matter had by no means been lost sight of. The Society had also assisted in the completion of the repairs of Langley Chapel, under the auspices of the Society for the Protection of Ancient Buildings, as well as the restoration of the north porch of the Abbey Church at Shrewsbury. The Society had, in addition, affiliated itself to the National Trust for Places of Historic Interest or Natural Beauty. The object of that Association was to promote the permanent preservation of lands and buildings of beauty or historic interest by accepting and holding them in trust for the use and enjoyment of the nation. In connection with that, an important Act of Parliament became law in August last, which it was hoped might have useful results. By the "Ancient Monuments Protection Act, 1900," power was given to any County Council to purchase or accept any monument of historic or architectural interest within its area, and to make the necessary arrangements for its preservation. The society felt that it was important that the existence of the Act should be widely known, and that whenever circumstances arose to make it desirable the County Council should be asked to exercise its powers, and so prevent the destruction of interesting objects, which once lost could never be replaced. With the end of the century ended the second series of the society's "Transactions." The Council had introduced one or two changes in the new series just commencing which they hoped would meet with the approval of the members. They had arranged with the printers for the use of a new and improved type, and they had introduced into the contents a certain number of pages of Shropshire "Miscellanea" with the object of recording discoveries made from time to time in the county, and of discussing questions of interest which did not require more formal treatment. There was still one feature which they were anxious to improve, but they were at present prevented from doing so by want of funds—they desired to add considerably to the pictorial illustrations of the "Transactions." On that as well as other grounds the Council ventured, at the commencement of a new series, to make an earnest appeal for increased membership, and to urge the claims of the society on all connected with the county and who took an interest in the history of a noble past.

The Chairman said that it was a very interesting subject to take up and to read the past through the monuments and landmarks which were left to us, and especially those monuments which were left to us in Shropshire. As the Society said in their circular, of all the counties that had organised such a society, there was none where the study of antiquity could possess more interest than Shropshire, where every step that might be trodden was hallowed by some association with the chivalry, piety, and patriotism of the bravest men of every age. First, in date order, there was Uriconium, founded about the year 56 and destroyed in the middle of the sixth century, which was the old town of the Romans, and which the society was anxious to explore in a more complete and systematic manner than had hitherto been done. The town of Shrewsbury succeeded Uriconium, which was at Wroxeter, at the destruction of which the ancient Britons went further up the river and founded the town of which we were so proud. They also called it "Scrobbesbyrig," and from the very earliest times it had been recognised by the monarchs of England as a town of great political importance. They read that in 1070 Roger de Montgomery destroyed a fifth of the houses to obtain a site for his new castle, which, until the time of the Civil War, continued to be a fortress of importance, and it capitulated to the Parliamentary Army in 1645 Then the churches in Shropshire were most interesting, and he would draw attention to some of those on his own property. There was a very interesting church at Barrow, where there was a Saxon chancel, which was originally, as some thought, the church itself; but there were distinct traces where the nave was widened into a Norman nave. Linley Church, too, showed distinct Norman architecture, and it was also one of the smallest and most perfect. Wenlock Priory was a very ancient building, being founded between 1017 and 1057, but there was an old church destroyed about 875. Buildwas Abbey was founded about 1138, and he saw by a deed about the year 1220 that the monks were contemplating considerable additions to their buildings, and that stone was to be procured in the quarries which lay within the manor of Broseley. They passed on the way there an old oak tree, which, he believed, gave the name to the village of Cressage, which was a corruption of "Christ's Oak," and was an interesting trace of the past. There were distinct traces of Parliament being held in Shropshire, one of them being at a most interesting place which he visited the other day—Acton Burnell, in the eleventh year of Edward I. He also understood that a parliament or conference was held at Tickwood, a place on his own property, in 1642, between Charles I. and the Roundheads; and, with respect to old houses, the Old Haygate House at Wellington had been held by his family for over 700 years, and was said to be one of the oldest in the county. The Town Hall at Bridgnorth was an interesting example of the half-timbered buildings on arches, built after the destruction of the former Town Hall in the Civil Wars, between 1650 and 1652. Bishop Percy's birthplace was still standing in that town, also Baxter's in the churchyard, and that of Tony Foster, but time would fail him to record all the time-honoured places in the neighbourhood of Shrewsbury Pitchford was an example of Early English and Condover of the Tudor periods. It was interesting to try to picture to one's self those old houses at the time they were built and inhabited by the men and women of that age. This century began by people trying to get rid of everything old, which he would call a "tasteless age," only better than the age before, when they whitewashed churches and put sheep-pens for pews; but he would remind them that the world went on in cycles, and though the last fifty years had been a great age of restoring churches, let them not be carried away by some architects to alter them in accordance to their ideas, but keep the history which they would find written in the stones. And there was one more warning he would like to give them, in making those remarks on the importance of the past to the present—if they did not think it presumptuous of him—it was not necessary to recur to their superstitions, which there was a tendency to do nowadays, for they should remember the world was grown older and ought to be more wise.

The Rev. T. Auden, in seconding the adoption of the report, said he wished to call special attention to the Ancient Monuments Preservation Act, which he hoped would lead to important results, and he also hoped the members of the Press would take care that it was well put before the public, so that it could not be omitted to be noticed. A slight improvement, not mentioned in the report, was that they hoped in future to insert a small index in each volume of the "Transactions," which would facilitate reference to the different articles in the book. With regard to the need of new members, the Society desired not only subscriptions, but more interest to be taken in its work. He should like every one to note that they did not ask people to become members as an act of charity, for they believed they could give new members good value for their money, and it could therefore be regarded as a business transaction. What they, as a Society, felt was that they who lived in Shropshire were connected with a county second in interest to none in the kingdom. It was full of interest, dating from the very earliest period, Pre-Roman, down to the very latest building of the last century. They felt that the county to which they belonged was of the nature of a noble heritage, and their anxiety was to impress upon everybody connected with it that they owed a duty to the past and to the future. Therefore all should take an interest in the past in order that they might take a greater interest in the present and the future.

The report was adopted.

THE ROMAN CAMP OF INCHTUTHILL.

EXCAVATIONS are at present being made by the Edinburgh Society of Antiquaries at Inchtuthill, in the grounds of Sir Alexander Muir Mackenzie, Bart, of Delvine, near Dunkeld, Perthshire. It has been long known that there was an important Roman camp here. There is a map of the camp in Roy's "Military Antiquities of the Romans," issued in 1755. This map shows a square camp in the meadow in front of Delvine House, crossed by Via Principalia, with an entrenched fort on the south-west and a strong redoubt to the south-east. Inchtuthill, one of the derivations of which is the island in the flooded stream, was once surrounded by the Tay, which flowed in two arms here, one to the north, the other to the south of it. Mr. Inverarity, the parish minister, reported upon it in 1792, and the Rev. Alexander Wilson in 1839, the one to the old, the other to the last Statistical Account. At present the flat of 160 acres is cut here and there, as if drains were to be introduced in some fantastic fashion. If there have as yet been no important finds, there have been some interesting ones, such as broken pottery, rusty nails and holdfasts, gravelled roads, and two Roman ovens in good preservation, built all round, with the charred wood and soot still visible. In the interests of the grazing, all the furrows and trenches will be covered in by May, when the important rampart in the wood to the east will be examined. It is also reported that the Earl of Mansfield has granted permission to the Society of Antiquaries to examine the grounds at Scone Palace for a like purpose. The older antiquarians leant to the belief that Inchtuthill was the station "in medio" mentioned by Tacitus in his "Life of Agricola," to which place the Roman general led his troops after the battle with Galgacus. Pennant has described the place in his tour, and Mr. Inverarity says that here the Picts had a town, and that the vestiges were in 1792 to be seen at the south-west corner. Boetius called it Tuline or Tulina; it was deserted and burned by the Picts on the approach of the Romans, who took possession of the place. Their camp in the north-east border is 500 yards square; the walls were 9½ feet thick, built with stones from a quarry two miles away; the stones were gradually removed, and the walls levelled by the plough. Therefore the digging necessary now to trace the foundations. Fragments of weapons and a Roman bath have been previously found. A barrow to the south-east was opened previous to 1792, and was found to consist of rich black mould, partly composed of the supposed ashes of the funeral pyres. The excavations have excited very little interest in the neighbourhood, but Mr. Abercromby, Mr. Thomas Ross, architect, and many well-known members of the Society have been over the ground.

The Dutch Second Chamber have passed the Improved Workmen's Dwellings Bill by a majority of sixty-eight votes.

GENERAL.

His Majesty the King has been graciously pleased to become the patron of the Royal Architectural Museum and Westminster School of Art.

Lord Northbourne has presented a new book plate for the library at Canterbury Cathedral. It has a representation of the cathedral from a distant point of view, and in the foreground are the figures of St. Augustine and St. Gregory, St. Augustine bearing a shield with the arms of the cathedral towards St. Gregory, who is represented as holding out his hands in the act of blessing.

St. Mary's Church, Soho, which was demolished as a dangerous structure by the County Council, has been opened with appropriate ceremony after having been rebuilt The historic edifice has undergone singular theological vicissitudes during a kaleidoscopic existence, and was in turn possessed by the Orthodox Greeks, Huguenots and Nonconformists.

The Committee of the Athenæum Club have elected under the provisions of Rule 2 of the club, which empowers the annual election by the committee of nine persons "of distinguished eminence in science, literature, the arts, or for public services," Mr. Thomas Brock, R.A.

The Shareholders of the York Corn Exchange Company on Saturday gave their approval to the sale of the Exchange Hall for the sum of 7,500*l*, to three Harrogate gentlemen, who, it is understood, propose to utilise the property either as a theatre or a music-hall

At a Meeting of the Pastel Society, held at the Royal Institute Galleries, Piccadilly, on Friday, April 19, Mr. Emile Claus, Mr. J. Delvin, Mr. Sydney P. Hall, Mr. Reginald Jones and Mr. William Padgett were elected members

Mr. William Connal, Glasgow, wrote last week to the Glasgow Corporation asking that the large painting "Danaë," or "The Towers of Brass," by Sir E. Burne-Jones, which he promised to the city in June 1891, should now be taken possession of and exhibited as belonging to the collection to be hung in the new Art Galleries of the city. The request was agreed to.

The Exhibition of works in wood and wood-carving, which has been promoted by the Carpenters and Joiners' Companies, and which will be held in the hall of the former company, London Wall, will be open to the public free from June 5 to 18 inclusive. All exhibits must be delivered at Carpenters' Hall before May 11.

The Archæological Society of Glasgow held their monthly meeting last week in the rooms of the Philosophical Society, Glasgow. Principal Story presided. In the absence of Mr. F. C. Eeles, the Rev. Professor Cooper, Glasgow University, read a paper on "Kincardineshire Churches." Afterwards a paper was read by Mr. W. G. Black on "Trent in 1900."

The Restoration Works at Peterborough Cathedral have been suspended in consequence of the funds hitherto available having been exhausted A sum of about 4,000*l.* more is required by the cathedral authorities to complete the restoration.

An Exhibition of great historical interest is in preparation by the authorities of the British Museum. The suggestion that in connection with the celebrations of King Alfred's millennary this summer there should be a special exhibition of objects preserved in the National Museum illustrating the history of England in Anglo-Saxon times is to be acted upon. The Museum contains many such objects, but they are scattered about in the various departments to which they belong, and these are to be temporarily brought together.

Mr. Cust, surveyor of the Royal Palaces, is to thoroughly overhaul the collection of paintings at Windsor Castle, many of which will be removed to South Kensington Museum, and be replaced by others from Buckingham Palace. The elaborately carved ivory throne chair and stool now in the Throne Room will probably find a destination in the same museum. It was presented to Queen Victoria by the Maharaja of Travancore in 1851, and was lent to the Great Exhibition of that year. The Jubilee presents to the late Queen are also to be sent to South Kensington, as well as a collection of Indian articles and suits of armour

The Glasgow Exhibition Authorities are confident that all the buildings will be in readiness for the opening ceremony. In the fine art galleries the work is so well forward that the remaining time will be given entirely to the deliberation which is necessary to insure an effective and tasteful arrangement of paintings and statuary. The placing of the statuary is in the hands of Mr. Onslow Ford, R A, and Mr. Frampton, A.R.A., both of whom have arrived at the Exhibition. Mr. Frampton's bronze figure of St. Mungo—a life sized representation of the patron saint in a sitting position—arrived with him, and will be placed in the north porch. The total amount of money expended upon the art galleries up to the end of February was 204,712*l.*, and it is proposed now to insure this valuable structure for a sum of 60,000*l.*

The Hampstead Borough Council have appointed a special committee to consider and report upon a proposal to acquire the old mansion and grounds known as The Grange, High Road, Kilburn, for the public. A proposal made by the London School Board to acquire a portion of the grounds as a site for a Board school has met with strong opposition.

Mr. Ernest Gray, M.P., on Saturday afternoon opened the seventh West Ham free picture exhibition at the Town Hall, Stratford, the mayor (Councillor A. Bishop) presiding. The exhibition, which has been a fortnight at Canning Town, will remain open for two weeks at Stratford. About 168 pictures are hung, among those who have lent works being the King (who sent Sir E. Landseer's "The Connoisseurs"), Lord Brassey, Lord Davey, Sir J. Brunner, Sir J. Kitson, Sir Cuthbert Quilter, the Hon. W. F. D. Smith, M.P., and a large number of artists.

The Funeral Service of M. de Brozik, the Bohemian painter, took place in Paris on Friday at Saint Philippe du Roule, and a large gathering, representative of the artists, the men of letters and society of Paris, was present. The pall-bearers were M. Larroumet, permanent secretary of the Academy of Fine Arts, M. Dausset, president of the Municipal Council, who represented the Municipality of Prague, M. Mucha, president of the Bohemian Artists' Society, and M. Saint-Saens, president of the Academy of Fine Arts, of which M. Brozik was a corresponding member. M. Brozik being an officer of the Legion of Honour, military honours were accorded to him. Three addresses were delivered at the grave.

The Institution of Junior Engineers will hold a meeting on Friday, May 3, at 8 P.M, at the Westminster Palace Hotel, at which the Northcott prize paper on "How may the best efforts of employers and employed be exerted for their mutual advantage and the national benefit?" by Mr. William Powrie, will be read and discussed.

The Tenth Annual Conference of the National Society of the Architects of France has been held this week. The subject for debate is a cottage hospital for accidents to workmen.

The Government Grant for next year's railway construction in India is 6,883,000*l.*, the requirements of open lines receiving first consideration, and the completion of lines in hand and the construction of new railways.

Mr. Murzban, the executive engineer of the Bombay Municipality, has erected eighteen blocks of model dwellings at Bombay for his own poor countrymen. No less than 117 Parsee families were accommodated in them during the plague.

Four Pictures by M. Edouard Detaille, which, however, he himself describes as works of his youth and not of first-rate importance, were stolen a few days ago from his mother's house at Saint Germain. It may be stated in this connection that the Versailles Museum has been presented with two of M Detaille's most famous pictures, *The Funeral of Pasteur* and *On Duty.*

Mr. Henry L. Florence, architect, was on Wednesday appointed Grand Superintendent of Works to the Grand Lodge of English Freemasons.

M. Felix Zeim, as previously announced, has been commissioned by the French Government to execute a picture commemorative of the visit of the Italian fleet to Toulon. The veteran artist, best known for his views of Venice, had a boat put at his disposal, from which he made sketches, as he refused the aid of photography. The scene selected is the general salute of the President on his arrival in the roadstead of Toulon by the assembled fleets.

Sir William Crossman, R.E., died this week He acted as assistant-secretary to the juries of the International Exhibition of 1851, and has been in charge of numerous public works at home and in the colonies. As lord of the manor of Holy Island he a few years ago caused large excavations to be made there, in consequence of which the ground plan of the ancient priory was exposed to view, and many interesting features of the building rendered famous by Sir Walter Scott's "Marmion" were discovered

Mdme. Falguière is organising at her house a small exhibition, to be opened in the course of next month, of works by her deceased husband. Owing to the number of applications a ticket for admittance will not be necessary.

Shortly before his death the late Mr. Hamar Bass, M.P., offered to build a church for All Saints district, Burton-on-Trent, but he died before the completion of the preliminary arrangements His son and heir was at that time under age, but before going out with his regiment, the 10th Hussars, to South Africa, he left instructions how to act in the matter, in accordance with which the contract note for building the new church, at a cost of about 21,000*l*, was prepared, and a special messenger sent with it to the Transvaal, where he met Mr. Bass, who is now of age, in the neighbourhood of Pretoria, and got from him the requisite signature, thus enabling the work to begin at once.

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JOHN KEMBLE AS CORIOLANUS.

FROM THE ORIGINAL PAINTING BY SIR T. LAWRENCE.

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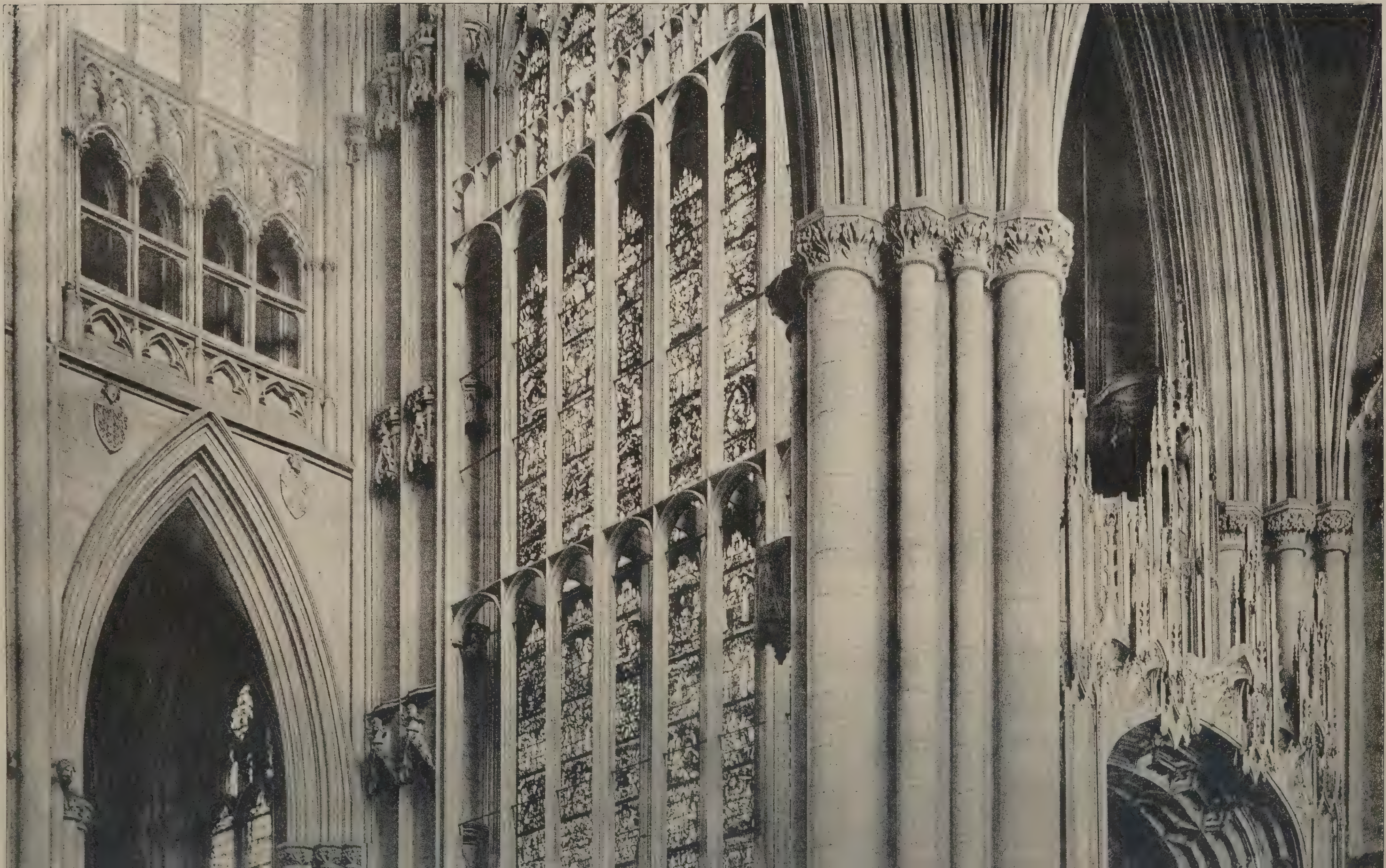

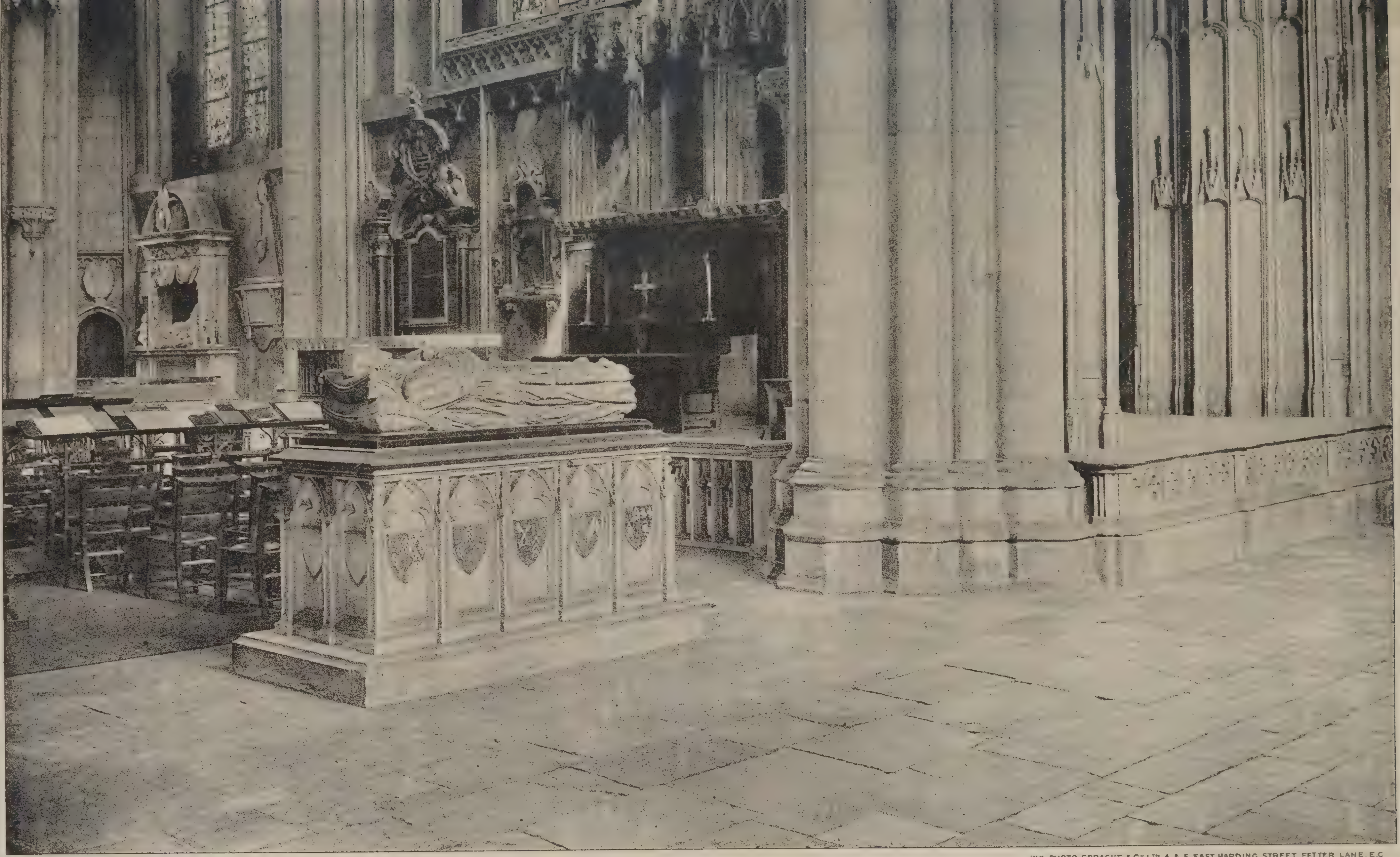

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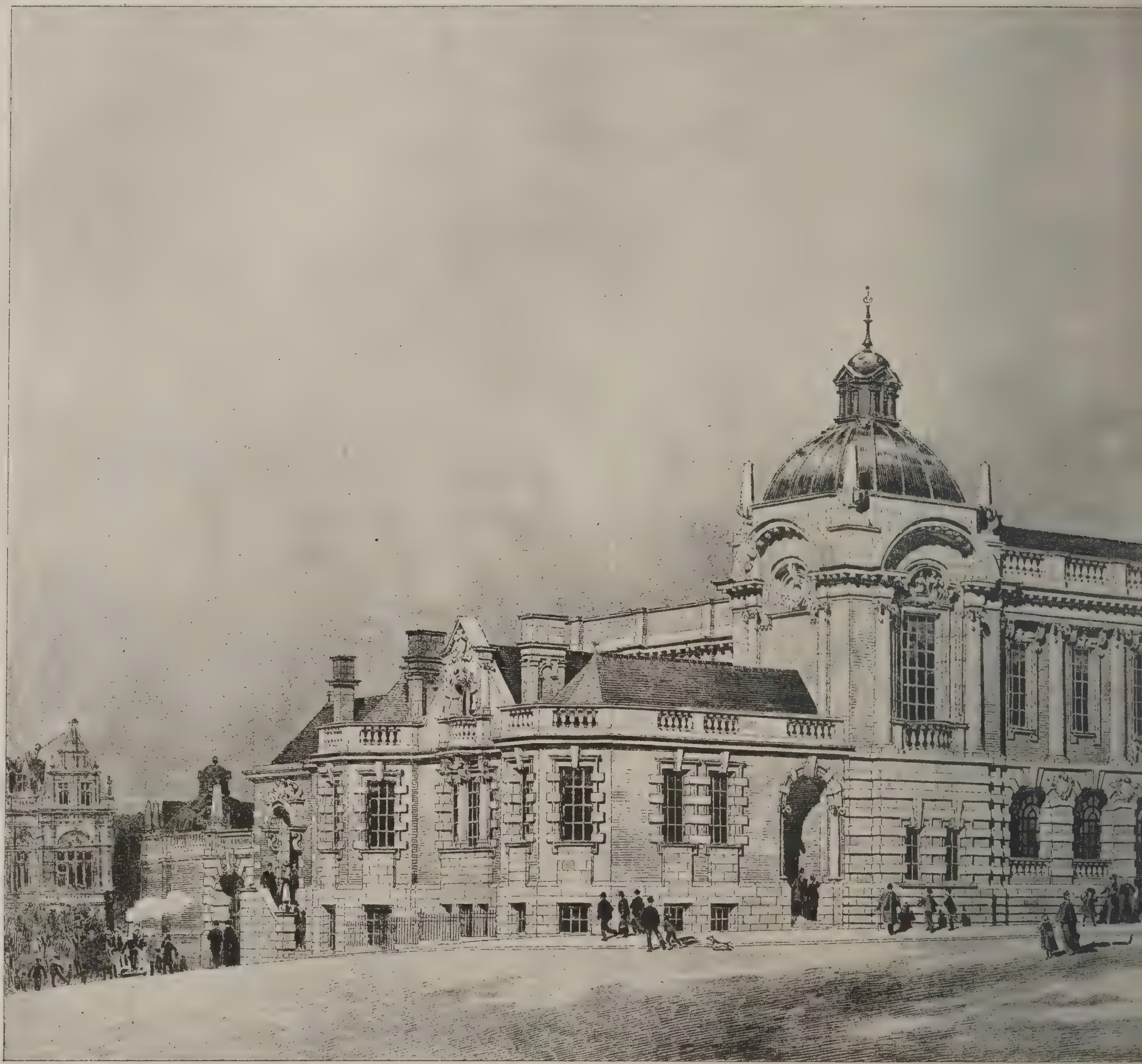
Cathedral Series, No. 331.—York Minster: The Lady Chapel.



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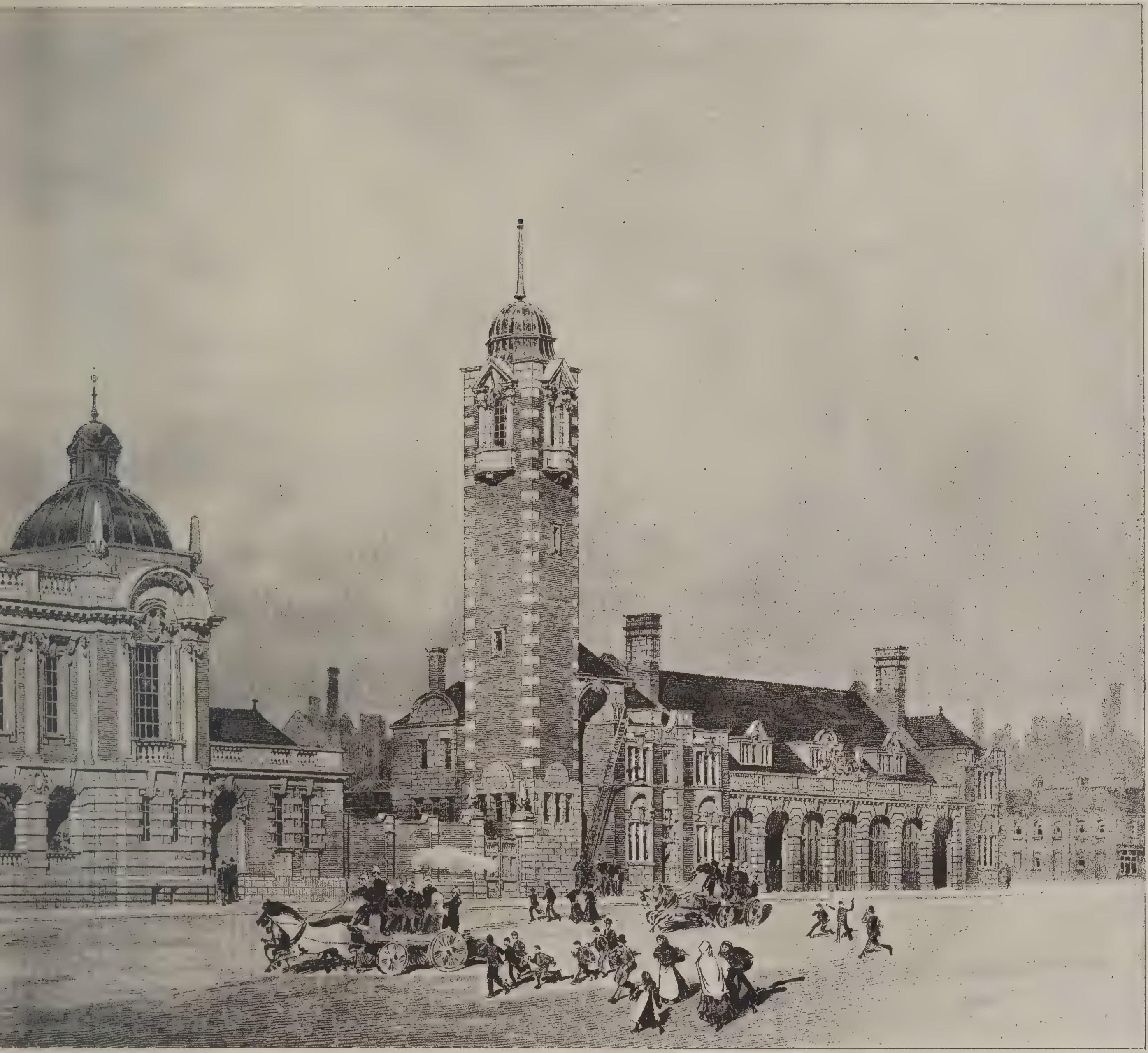

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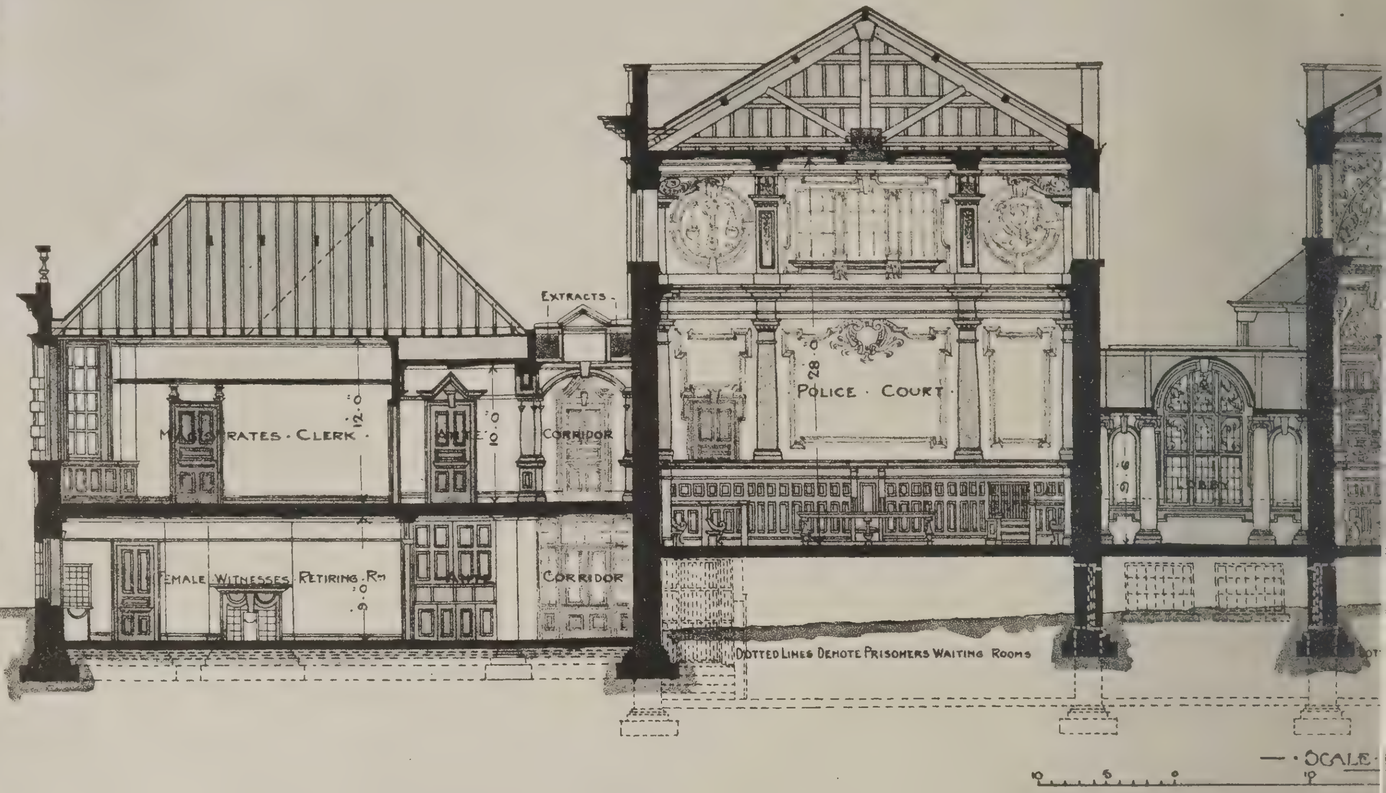

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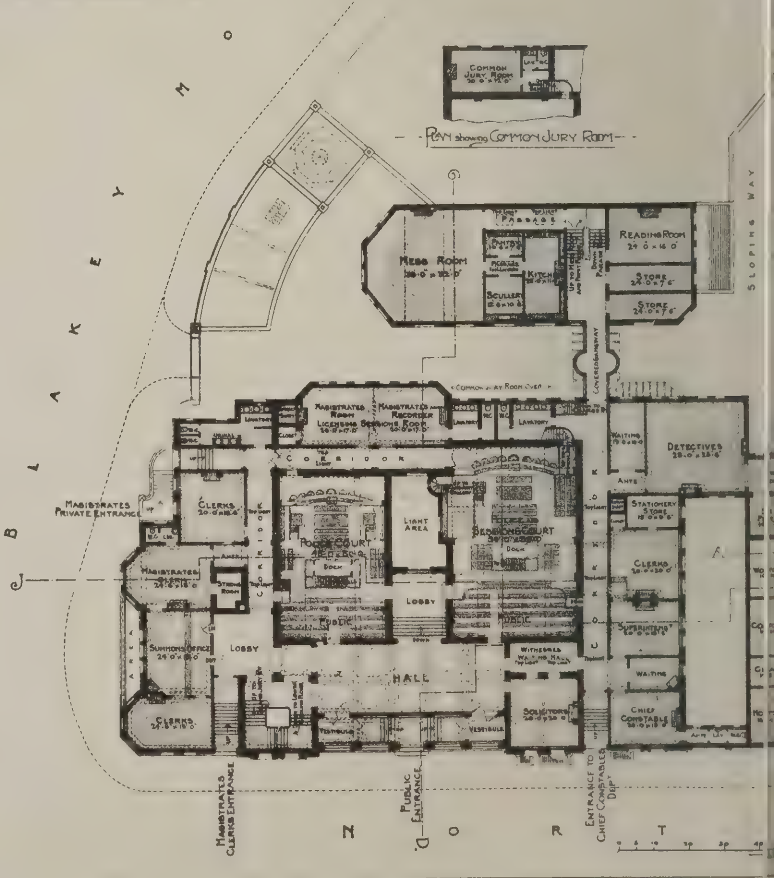

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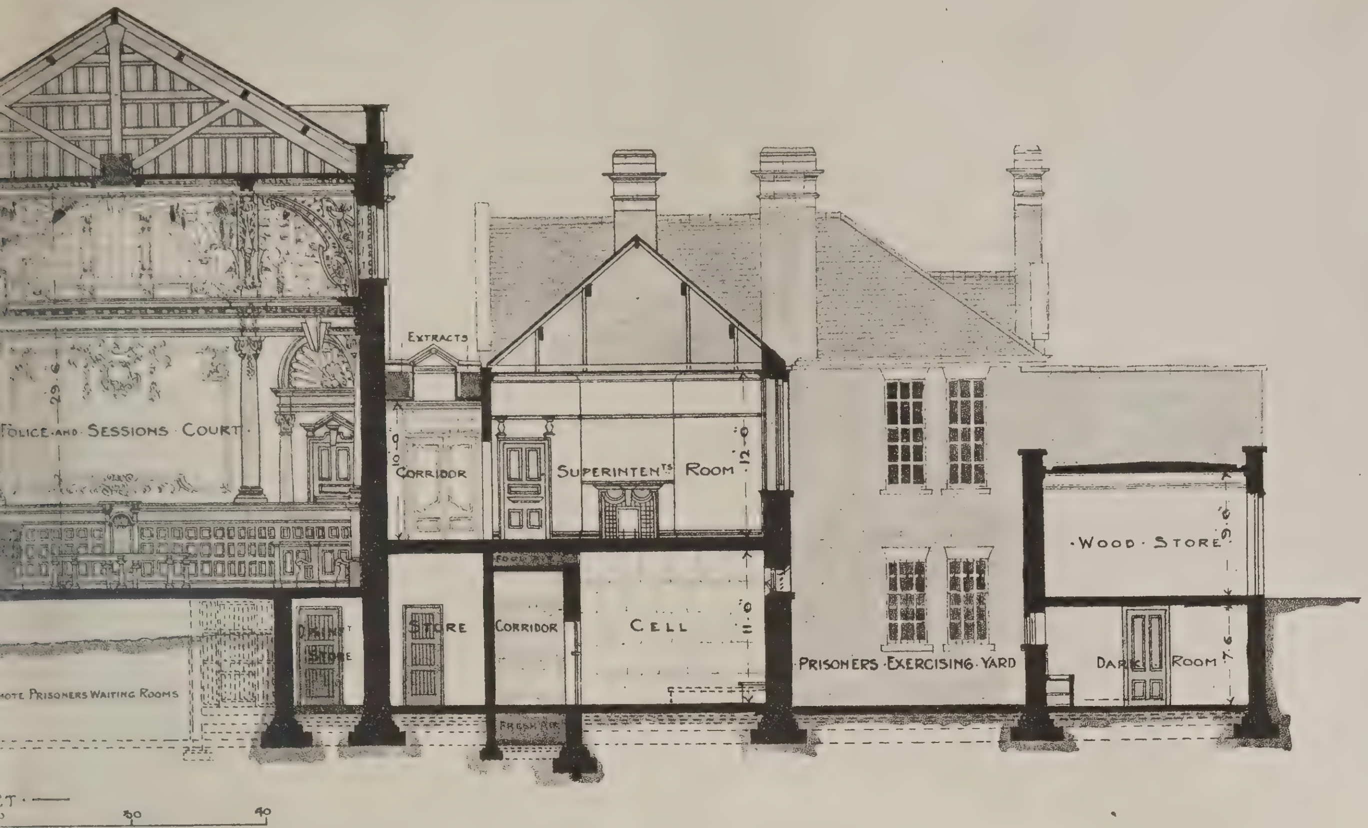

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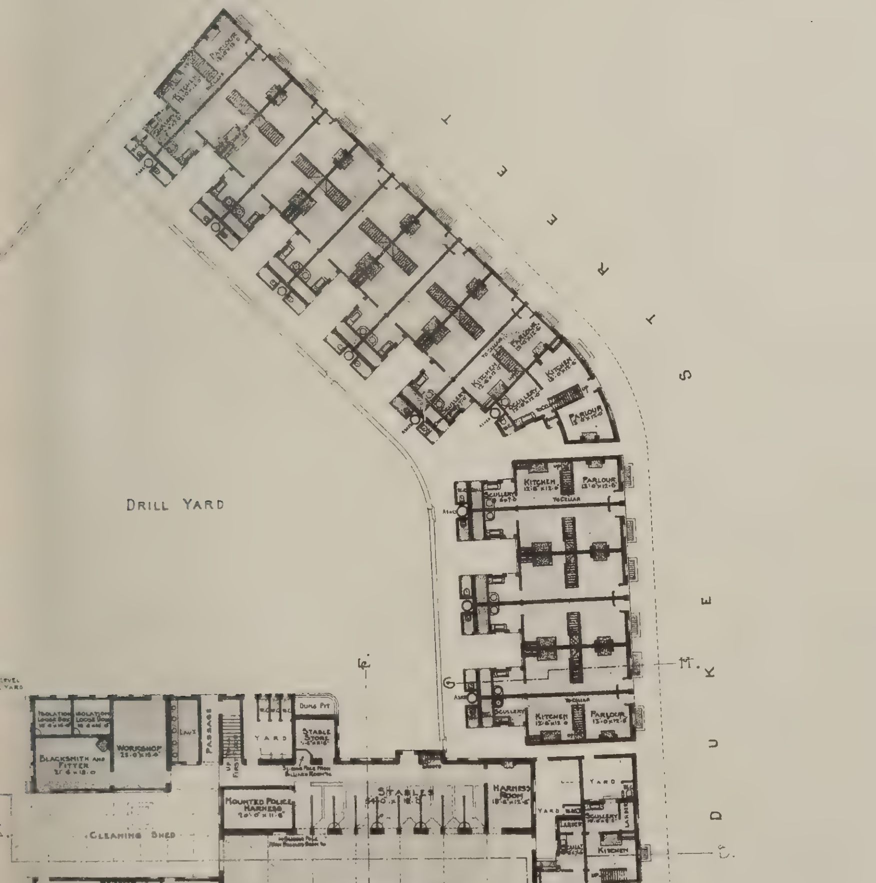

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E STATION, BLACKBURN.

TENHOLME, } Joint
ES, } Architects.

The Architect.

THE WEEK.

The conference that was held on Friday last in connection with the Building Trades Exhibition on the subject of standardising of bricks must only be considered as tentative. In our time there is a desire for uniformity which is an inevitable consequence of the centralising policy displayed by many Governments, and, on the other hand, there is an eagerness to have the utmost liberty which is obtainable. It therefore depends on an architect's idiosyncrasy whether he will insist on having bricks of the same dimensions year after year and in all parts of the country, or whether he will rejoice at liberty and utilise a great many varieties of bricks for the sake of having less commonplaceness in his walls. Art is not in keeping with uniformity, but circumstances in our time not being favourable to art it is possible that uniformity will be held to have more value than it really possesses. For anyone who wishes to suggest machine-made buildings there cannot be a more appropriate material than bricks which seem to be turned out of the same mould. On the other hand, it should not be forgotten that as long as buildings have been in progress there has been much latitude allowed to the makers of bricks. The Roman bricks were not all of the same dimensions, and those who imitated them displayed as much desire for freedom. The French have had a refined architecture in which brick was the principal element, but the brickmakers were permitted to employ different dimensions as well as to make use of light clays and heavy clays. The general knowledge of chemistry has been turned to account, and although one may not find better bricks in France, there is at least more variety than in England. In the United States there is no legal standard, although 8¼ inches by 4 inches by 2¼ inches is supposed to be the normal size of the National Brickmakers' Association. English brickmakers are not peculiar, and it will be wise to avoid coming to a conclusion of standardising until all the circumstances connected with the making and using of bricks are fully considered. At present the conservative and transforming elements correspond in value.

There are so many varieties of building carried on in this country, and as a consequence so many varieties of architects employed, care should always be taken that practices which are merely local and almost insignificant should not be assumed as applying either to building in general or to the whole body of architects in England. A case, for instance, which was heard a few days ago before Sir Horatio Lloyd in the Conway Court shows a state of affairs which we hope is confined to a very limited area. A plumber sought to recover payment for work done and materials supplied. The architect of the two houses testified that the work was carried out to his satisfaction. In cross-examination he admitted he received a commission of 2½ per cent. on the grates, and probably also on the slates. The cross-examination was then continued as follows:—Is it a proper thing for architects to get a commission on goods?—It is a general custom all over the country. I have got a few architects here who practise in this neighbourhood, and they will contradict you.—There may be exceptions to the rule. I do not think they can. You were supposed to be Mr. Hughes's architect, and to see that he got the best goods, according to the specification, and yet you were getting a commission on those goods yourself.—I got about 15*s*. If I was ordering them and recommending them, and finding him a cheap market, why should I not get the commission? They knew I was getting it. You admit you were getting paid by Mr. Hughes and by the gentleman who supplied the goods?—Yes, about 15*s*. Does that remark apply to all the contracts for which you act as an architect?—No, not at all. But you said it was the usual thing, and I take it that wherever you acted as architect in this neighbourhood, you got the commission for the goods?—If I got an order I did so. There is nothing underhand about it. If I go about the country buying stuff for clients, it is right that I should be paid for it. It is no part of your duty as architect to take journeys and buy materials?—No; but if it assists my clients, I do so. His Honour: You say this payment of commissions is a common thing?—Witness: It is. His Honour: How do architects do when they get things that they have to condemn?—Witness: They do not condemn in that case. His Honour: How is an architect to exercise an independent judgment as to the sufficiency and quality of materials coming on to the job if he is getting a commission on them?—Witness: These commissions are usually for grates, &c., things about which there could be no complaint. His Honour: Suppose they came in a damaged or cracked condition, it would be the architect's duty to say so. Is he not rather hampered in his judgment and his discretion by the fact that he has a commission on them?—The Witness: He gets a commission doing work, for helping the builder. His Honour: For doing work that may be inconsistent with his duty?—Witness: Perhaps so. It is done all over the kingdom. His Honour: All I can say is, it shows the necessity for the Bill that has been introduced into the House of Lords to stop illicit commissions.—The Witness said that if there had been anything wrong the builder himself would have complained. His Honour said there was competition in the open market, and some gave more commission than others. The man who gave the highest commission probably got the order, and then he wanted to know what sort of a position the architect was in if the materials when they came on the job were not fit for the purpose.—Witness: The architect would choose a good firm, so that there would be no complaint. It is a well-known fact. All my clients knew I was getting it. There are clients in the room for whom I have purchased grates, &c. His Honour: You are honest enough to say that. We won't go into it any more. This inquiry is quite complicated enough of itself. Anyone who is acquainted with architectural practice must know that the architect's statements are not generally applicable. What is remarkable is that the owner of the houses gave evidence, and he said nothing against the practice of tradesmen allowing percentages, although the money must have been directly or indirectly drawn from him. As the case was postponed, it remains to be seen whether the result will be affected by the bestowal of the commissions.

The responsibility for bridges over canals has been made the subject of some actions in Staffordshire, but the results wherever they are arrived at are no less important in other counties where similar structures exist. There is no doubt any judicial decision will also have influence on some railway bridges. Everyone knows that when Bills are sought which will confer power for the construction of canals and railways power is taken to construct bridges across them with suitable approaches. The plans have to be approved by county authorities and their engineers. Then comes the question of upholding the bridges and the approaches. There is some variation in practice, but generally the companies are supposed to uphold masonry and ironwork in repair, while the road surveyors keep approaches in condition. It has been found in more than one case that the roads were left to take care of themselves, the result being that the restoring of them to an efficient state is an expensive undertaking. The Staffordshire County Council maintain that in about forty cases the responsibility for reparation should fall on the Staffordshire and Worcestershire Canal Company. The law in the case is not easily applied owing to the absence of precedents, and from whatever point of view the subject is considered, anomalies appear to spring up. In some modern railway bridges of elaborate construction it is easy to understand that a company, knowing the difficulty of fixing liability for accidents, would prefer to execute repairs to the superstructure of bridges rather than allow ordinary roadmen to meddle with them. But a bridge is incomplete unless the approaches are taken into account, and it appears extraordinary that responsibility could be divided without the least authority being derived from Parliament for the arrangement. Owing to its importance the hearing of the Staffordshire test case has been adjourned until July, and that fact alone suggests the difficulty of arriving at a decision.

SPANISH PAINTING.

WHEN it was proposed to hold an exhibition of the works of Spanish painters in the Gallery of the Corporation of London, the conclusion was drawn that it must consist mainly of old masters. The existence of a Spanish School of Art was practically unknown in England until Wilkie began his studies in Madrid, and during many years Spanish pictures were sold at nominal prices in London auction rooms. It was inevitable a reaction should take place, and we now seem to be making compensation to the manes of Velasquez, Murillo and the other masters who formed the Spanish school. But great as is the merit of their work in a technical sense, it must be admitted the paintings are not of a kind to please the multitude. For who can care about the portraits of Spanish kings and grandees, or of princesses who are not remarkable for beauty, and who even on canvas seem to assert their superiority? Fortunately the committee and Mr. Temple have not been subjugated by the influence of antiquity. They have recognised the existence of a Spanish art of later date, which has in it all the elements which can attract a crowd. Would-be amateurs may profess to see only in the portraiture and the altar-pieces of the upper rooms those paintings which are works of art. But if statistics could be furnished, we imagine that the largest amount of pleasure which will be derived from the Exhibition during the next three months should be attributed to the glowing scenes recently reproduced by Spanish painters.

It is always an advantage to be able to trace the growth of a modern school from one of older date. But in the case of Spain there is no gradual or almost imperceptible evolution of that kind. The reason is that in no other country of Europe did such peculiar conditions exist. The Spaniard was for many a century unable to follow his own inclinations. Secular and ecclesiastical powers had taken him under their control, and, regardless of the pain to himself, he was expected to do whatever they ordered. As churches were held to be the most important of all works of art, architecture and sculpture flourished at the expense of painting. It was not until the beginning of the fifteenth century that we discover signs of a Spanish painter, and Juan Alfon should be held in enduring respect for his attempts in the cathedral of Toledo. It was in 1450 Juan Sanchez de Castro founded a school in Seville, and a few years afterwards we read of Jorge Inglès, which probably signified George the Englishman, and thus suggests how painters from this country, like many from France, Italy, Germany and Flanders, found their way to Spain, and served as substitutes for native artists. The Spaniards could not produce such excellent architecture, sculpture and metal-work, and yet be deficient in aptitude for painting. Schools of art at length arose in Valencia, Toledo, Seville and Madrid, and a great number of painters issued from them. But the prosperity was not destined to be of long duration. By degrees the schools collapsed, as if they were depending on the political power of the country, and as one succumbed the other must follow. For many a year it seemed as if Spain was destined to be separated from other countries by its indifference to painting.

The multitude of foreigners could not fail to be sometimes beneficial. Although the Spaniard can be energetic, he is generally disposed to inaction, and it was a satisfaction to him to have his churches decorated without much exertion on his part. The chief demand for painter's work was from ecclesiastics or pious laymen, and as a consequence scriptural or legendary subjects were preferred to any that could be derived from everyday life. The arts were not able to escape the control of the Inquisition, and in order to avoid a collision with that mighty power nothing but what was decorous was represented. The extraordinary spectacle, however, was presented of each painter dividing his attention, as it were, between extremes. Velasquez was a Court painter, but he made subjects of the humblest beings he could find in the narrow streets. Murillo's imagination found delight in celestial themes, and at the same time he revelled in subjects which exemplify the degradation of humanity. Velasquez, too, might be supposed to be wearied of the obstacles to his advance in art which the Court created. But yet he diplomatised to obtain the office of "Aposendator Mayor," by which he became responsible for the commissariat of the royal palace.

In the Corporation Gallery we can see many examples of what used to be regarded as the highest possible varieties of art. Look at that endless portrait called *A Lady of the Ducal House of Medinaceli*, in which every inch of detail of the long stiff dress is represented with painful fidelity. It is the work of Pantoza de la Cruz. Equally elaborate is the portrait by his master, Alonzo Sanchez Coello, of *Maria, Fourth Wife of Philip II. of Spain.* Before the portrait of *Ana de Mendoza Y de la Cerda*, Princess of Eboli, by El Greco, the spectator forgets millinery and thinks only of the keen-featured woman who looks out so mysteriously from the canvas. She was introduced as a character by Schiller in his "Don Carlos," who suggests that she tried to make the Crown Prince fall in love with her. She is therefore more interesting than the majority of the Spanish royalties near her. El Greco is believed to have been one of Titian's pupils, but he had none of his great master's repose. All his works show an excitable disposition.

The Exhibition should enhance the reputation of Murillo. Of late years he has been treated as if he were a humble satellite of Velasquez. But the Seville master's work is of a different kind, and in its way as perfect as any produced by Velasquez. Murillo has the surer sense of beauty of the two; his Blessed Virgin comes nearer the ideal "Alma Mater" than any of Raphael's inventions. Whatever difference there may be in the features, the sentiment is always the same. Thus in Lord Wantage's altar-piece, motherliness is predominant, and in the various Immaculate Conceptions one feels the artist wished to express the desire of the Mother to meet her Son. The *St. Francis of Assisi* is a powerful work, and the light and shade is more emphatically treated than is usual with Murillo. But why a painter who was evidently so well acquainted with the legends of the saints should employ a brown instead of a grey robe is beyond comprehension. If we compare Murillo's *La Santa Faz* with some later and sensational versions of St. Veronica's napkin, the tender, delicate, reverential feeling of the Spaniard will be apparent. The *Prodigal Son* is such a scene as might have taken place in Murillo's time, but we are glad that care was taken to exclude any of Murillo's low-life incidents from neighbourship with his church pictures. Ribera's *Simeon and the Infant Saviour* is one of his best works, boldly painted, yet fully expressing the situation; but his realism is more marked in the head of the old geometrician, whose face is a mass of wrinkles.

The present Exhibition is an argument for a new gallery. It must be admitted that the pictures by Velasquez do not look as masterly as on former occasions, when they were seen in other places. *The Water Carrier of Seville*, for instance, from the Duke of Wellington's collection, hardly seems to be worth stealing by one of the Buonapartes; although under better conditions of illumination it is a very realistic picture. The head of Francisco de Quevedo, the satirist, is characteristic, and the large black spectacles are suggestive of a man who wrote beneath a mask. The so-called *Spanish Beggar*, holding a wine flagon which is a triumph of the potter's art, and who is gazing on an immense globe in which scenes enlivened by wine, women and song are reflected, is remarkable, although not entirely in keeping with the artist's style. *The Steward* shows a man who evidently enjoys his office. There are several kings and princes, but what will give more satisfaction to many is the portrait of Juan de Pareja, the slave of Velasquez, and who from colour-grinder and brush-cleaner became a portraitist whose works have been taken for his master's. *The Calling of St. Matthew*, in the Madrid collection, is by Pareja, and if it were not for the circumstance of his condition, it is probable he would have gained no renown. The portrait of Innocent X. may be only a study for the big picture in the Doria Pamfili Palace in Rome, but as an example of characterisation it errs by excess. M. Taine says it is "la figure d'un pauvre niais, d'un cuistre usé," but the politicians and rulers of that time were not easily detected. The portrait is not pleasant to look on, but how the subject could be gratified with such a revelation of his weakness is incomprehensible.

Of late years much has been done to resuscitate the fame of Francisco Goya. He was a contemporary of

Gainsborough, and, although he had not the artist's power or sense of beauty, there was an unaffectedness in his work which is more English than Spanish. The portrait of his brother will give some idea of the kind of models that were before the eyes of Goya, and the difficulties he found in obtaining mastery will be better understood. It would be hard to trace any affinity between his style and that of Velasquez, but Spanish critics looked on them as kinsmen in art. There are a great number of works by him in the Exhibition, and they deserve attention as showing the pursuit of art under difficulties.

It is a psychological question whether modern men are not more competent to perceive the beauties of landscape than their predecessors. The Greeks, if we may judge by their writings, never went into ecstasies before scenery, and the old landscapes which we see in the Corporation Gallery are not enough to attract tourists to Spain. But the modern artist sees in Spain scenes which are almost too dazzling to look upon. Colour is everywhere, and there is a prodigality of beauty in the elements of landscape which goes beyond Japan. The people are in keeping with their surroundings, and it is hard to imagine a stronger contrast than is is offered by the pictures on the ground floor and those seen in some of the rooms above. The elder of the two Fortunys is the best representative of the new colour spirit, and fortunately a great many of his works have been obtained. The study called *A Negro of Morocco* is evidence of the power which he could display on a small scale. But everywhere he saw colour in abundance—in *The Arena*, where a matador holds up his hat to the assembled crowd, in *A Moorish Guard*, in *The Garden of the Poets*, in the wonderful marriage, *La Vicaria*, in the scenes from the bull-fight, and, above all, in *The Selection of a Model*. A transaction of the last kind is in reality a sordid scene, degrading to all who take part in it. But as Fortuny painted it, it is such a scene as never was witnessed nor ever can be witnessed so long as art has its political economy. The room where the choice is made is a rococo creation by some late Renaissance Crœsus, where ormolu, the richest marble, mirrors, sculpture and everything that can be charming is collected to serve as a frame to a youthful figure. The painters are mere satyrs, but they wear habits beyond the attainment of ordinary dandies. That such a work should find its way from Rome to New York was perhaps inevitable, but it is remarkable that Senator Clarke, the owner, should not hesitate to lend it to a gratuitous exhibition in London. Rivalling it in gorgeousness is the Marquise de Carcano's *Spanish Marriage*. The sacristry will bear comparison with the artist's hall. The walls are hung with tapestry, and metal-work is liberally introduced, as becomes a Spanish scene, while bride and bridegroom with their countless followers may all be described as products of the costumier, and yet they do not appear to belong to a refined class; they are the representatives of a sensuous Spain, and for that reason are the fitting performers in such a scene. Not far off is a small painting measuring 14 by 20 inches by José Casado del Alisal, called *The Bell of Huesca*. It is remarkable how many tragic scenes are associated with kings and queens in Spain. In this case we see Ramiro II. standing in a gloomy vault with the heads of his enemies around him, while a crowd of other nobles are being pushed forward to increase the number of the victims. But the scenes from Venice by Cordero in the gallery will show how much more colour a Spanish painter sees in a scene than any other artist. Often as have the buildings and their surroundings been painted, the same peculiar brightness and sharpness of outline has not been attempted before.

The brilliancy of the illumination gives sadness to José Moreno Carbonero's *Don Quixote and the Merchants*. On one of those burning plains which sere the eyeballs the knight meets the Toledo merchants, who are shaded beneath umbrellas that might be canopies. As they would not own to the superiority of his Dulcinea, he charges them as becomes a knight, but the weak and wearied steed succumbs, and the knight falls to the ground, where he is soundly beaten by a groom. The scene is remarkable, but it is suggestive of a peculiar malice which sometimes crops up in modern Spanish work, and which is a revelation of irreverence. In another scene, *The Interrupted Procession*, by José Garcia T. Ramos, the incident represented is the disorder arising from a sudden squall, which drives a confraternity in procession into a church; candles are broken and overturned; people are crushed and lose their tempers. It may be very amusing, but it suggests that the painter has no respect for the beautiful forms he draws, otherwise he would not have shown them in so topsy-turvy a manner. Francisco Pradilla is in force. Two of his largest works are *Boabdil surrendering the Keys of Granada to Ferdinand and Isabella* and *Boabdil's Farewell to Granada*, which impressively depict two memorable scenes, but without any trace of theatricalism. The splendid detail which still fortunately remains in Spanish cathedrals is well represented by Arcadio Mas T. Fondevilà, José Gallegos and others. Fortuny's success in interiors has given rise to many rivalries, like those by Zamacois and Salvador. José Domingo in the *Fair at Seville* gives a glimpse behind the scenes with a delicate child, in whose fate even the poodle takes a lively interest. Signor Pradilla's *The Mad Joanna* shows another Spanish queen who had a cult for her unfaithful husband's corpse, and kept watch over it for nearly fifty years. Rivalling it in gloom is the *Seat of Philip II.*, by Luis Alvarez, which belongs to the German Emperor. On the top of a bleak rock a seat was excavated for the king, and there it was his custom to transact affairs of State in safety. The husband of Queen Mary and the organiser of the Armada cannot receive much sympathy from London visitors, and his solitude will be taken as an act of retribution.

For all who care to learn there is much to be acquired from the collection. The Spaniards have a marvellous way of being able to express effects without any sign of labour. Much arises from the clear ideas they possess of what they are to represent, and the kind of agents that are to be employed to express their thoughts. But as a show this year's exhibition will for attractiveness favourably compare with any previous year's, and much is due to those who organised the collection in order to afford a pleasure which thousands of London citizens will appreciate.

PUBLIC HEALTH.*

WHENEVER the history of the nineteenth century is written, it will be no easy matter to explain how so large a part of the time was allowed to pass without the slightest regard to what is now known as public health. Not only philanthropists, who are allowed to take visionary views of all things, but statesmen, political economists, clergymen, writers, medical men, all seem to have accepted dangers to life as if they were decreed in the constitution of things and were not to be altered. Inferior abuses were magnified, and gave rise to endless investigations and discussions, but the great problem whether death was not preventable in a number of cases was not even mentioned.

One case will exemplify the state of opinion on the subject. It was in 1850 Carlyle wrote his "Latter Day Pamphlets;" they treated of many real evils that existed and many that were created by his perfervid imagination. Everything was magnified, and it would seem as if all the world, and England especially, could be regarded as approaching a destruction from which there was no escape. The world then read about administrative reform, hierarchies of beneficences, Home Office neglect, pauperism, organisation of labour, shams, lies, model prisons, work, &c. John Bull was informed that a complete course of scavengerism was the one thing needful, but what was to be cleared were phantasms, spiritual vampires, obscene nightmares, and not anything which could be removed by brooms and spades. Carlyle was, in fact, only the exponent of public opinion, and he himself, like the majority of men in the country, was ignorant of what could be accomplished by observance of a few sanitary laws.

The poor, it has been said, are always with us, and it would be now hard to say whether the sanitary movement began with Dickens writing "Oliver Twist" or with the introduction of the new Poor Law. Dickens had the courage to describe the appalling physical conditions amidst which crime was fostered. He gave up the theatrical robber and all the imaginary surroundings, which made the end appear of little consequence. He courageously dared to reveal what he calls "the foul and frowsy dens, where vice is closely packed and lacks the room to turn; the haunts of hunger and disease; the shabby rags that scarcely hold together." But so little was known or cared about the true condition of London, one of the Aldermen declared that Jacob's Island did not exist, or never had existed. Then came the inquiry into the state of large towns and populous districts, with its official series of sixty-two queries, which were to be answered by the municipal and local officers. But probably nothing that was then revealed caused more amazement than the declaration of Mr. EDWIN CHADWICK, which was as follows :—" Defective drainage, neglect of house and street cleansing and ventilation and imperfect supplies of water, contribute to produce atmospheric impurities which affect the general health and physical condition of the population, generating acute, chronic and ultimately organic disease, especially scrofulous affections and consumption, in addition to fevers and other forms of disease." The Commission of which Mr. CHADWICK was the soul continued its labours, and as early as 1845 we find proposals in a report which are not yet fully realised. The difficulty of attempting the least improvement in those days was suggested by the recommendation that all local sanitary bodies should be placed under the supervision of the Crown.

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* *Practical Guide to the Public Health Acts.* By T. W. Hime, B.A., M.D. London: Baillière, Tindall & Cox, Henrietta Street, Strand.

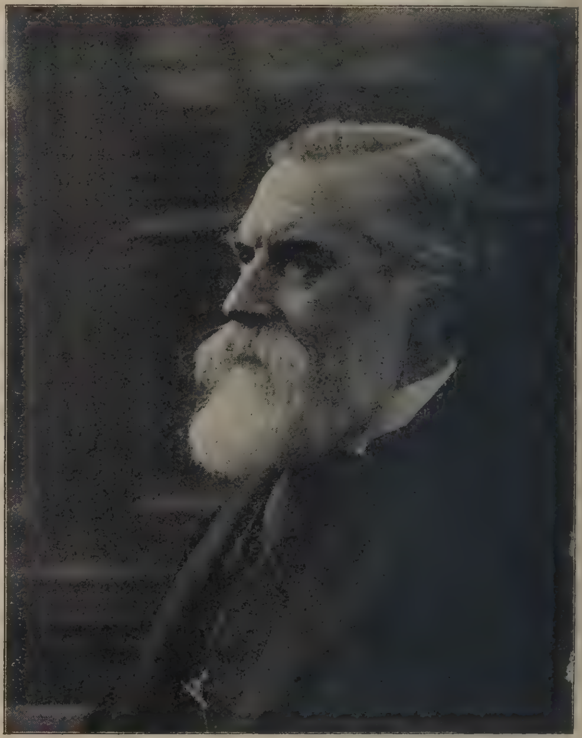
The difference between past and present is further shown when we find a handbook on Public Health Acts which occupies a thousand closely printed pages. In glancing over them the impression is made that the architect and surveyor are now not far in importance from the medical officer of health in the administration of the law. The reason is simple; most of the evils which have to be combated arise in connection with houses, and the architect, as representing construction, should therefore have the principal voice in determining the good or evil points in buildings of every description. It does not always happen that his experience is utilised; but as long as the Statute Book contains regulations about drainage, water-supply, character of materials, warranty of fitness, the architect's experience is of more account than that of any other officer.

When we take into account how comparatively short is the period in which we have been endeavouring to atone for the offences against sanitation which have been committed during centuries, it was not to be expected that the Public Health Act of 1875 could approach perfection. There are many shortcomings in it, and the language is, if possible, less precise than what is found in the majority of public Acts. But if we look on it merely as a measure introduced and carried by various pioneers, its value will be more apparent. It is the Magna Charta of sanitation in this country, and although it may be based on theories which will not now sustain examination, no Act has been more productive of good to the community. Dr. HIME, besides giving the Act, furnishes a commentary upon it which will be found of great use in practice. Many other Acts relating to public health are also printed, and the law on the various subjects therefore occupies a large part of his volume. An ample series of by-laws is also supplied. Then there are hints on statistics; abstracts of what is known on various subjects in connection with sanitation; copies of examination papers, and reports of the more important law cases relating to the administration of public health. For any one engaged in carrying out the procedure relating to this subject a more compact and useful guide cannot well be imagined. It has been brought out in excellent style by the publishers, and the printers have done all in their power to facilitate reference to the varied information found in the pages.

Mr. E. Greenop is to read a paper to-night before the Discussion Section of the Architectural Association entitled "Professional Advertising." It will be treated under the following heads :—What is advertisement? The necessity. Varieties. Other professions. Sundry instances. The notice-board question. Hard and fast lines. The pitfalls of snobbery.

THE LATE W. BASSETT-SMITH.

WE have to announce the death, on Friday, April 19, of Mr. William Bassett-Smith, at the age of seventy, who was for many years a very prominent ecclesiastical architect, and whose name is well known throughout England by his great ability in church design and restoration. His fame, however, was not only confined to this island, but extended to the colonies, for he built churches in Australia and the West Indies, the most important work being the remodelling of Trinidad Cathedral, the choir of which has been completed. His practice extended back to the fifties of the last century, and he only relinquished it quite recently through illness, since when it has been carried on by his son, Mr. Charles Bassett-Smith. We reproduce a portrait of Mr. William Bassett-Smith.



THE STANDARDISING OF BRICKS.

A CONFERENCE on the standardising of bricks, arranged by the Royal Institute of British Architects and the Institution of Civil Engineers, was held last Friday at the Building Trades Exhibition, Agricultural Hall, Islington. There was a good attendance, chiefly composed of brickmakers and others directly interested in the trade.

Mr. Thomas Blashill, the chairman, in introducing the subject, said that architects met with great difficulty on account of the variation in the sizes of bricks in different parts of the country. The meeting had been promoted to find out if anything could be done to remove the inconvenience and to insure general uniformity.

The hon. secretary, Mr. Searles-Wood, then announced that the standard suggested by the joint committee of the Royal Institute of British Architects and the Institution of Civil Engineers was as follows :—

1. The length of the brick should be double the width plus the thickness of one vertical joint.

2. Brickwork should measure four courses of bricks and four joints to a foot.

3. Joints should be $\frac{1}{4}$ inch thick, and an extra $\frac{1}{16}$ inch, making $\frac{5}{16}$ inch, for the bed joints to cover irregularities in the bricks; this gives a standard length of $9\frac{1}{4}$ inches centre to centre of joints.

4. The bricks to be measured in the following manner :—

5. Eight stretchers laid square end and splay end in contact, frog upwards, in a straight line to measure 72 inches.

6. Eight headers laid side by side, frog upwards, in a straight line to measure 35 inches.

7. Eight bricks laid, the first brick frog downwards and then alternately frog to frog and back to back, to measure $21\frac{1}{2}$ inches.

This is to apply to all classes of walling bricks, both machine and hand-made and facing bricks.

Letters were then read from persons concerned who were unable to attend the conference.

Messrs. Thomas Lawrence & Sons (of Bracknell) said:—"We quite agree with the idea, but are bound to point out with regard to red bricks there are bound to be some bricks from the bottom part of the kiln which will be shorter than those from the upper part; in fact, to burn the darkest red colour it is necessary or usual to burn these bricks, stood on end, consequently the weight of the bricks above and the heat of the fire below makes these oftentimes shrink nearly half an inch in length. As this is the most difficult colour to procure, viz. the dark red, you will understand that as brickmakers we see very serious objection to it being specified in contracts that bricks shall be of the standard size."

Mr. E. Holwill considered "the most simple rule to adopt would be that the size of bricks should be such that they should in the work run four to the yard and rise four to the foot; this enables the quantity to be estimated easily at per foot super or per yard super. The above, of course, includes joints, and naturally the width of a brick should be half the length, less the thickness of joint. The question then becomes one of thickness of joint, and different classes of bricks require necessarily different thickness of joint. Glazed bricks and some classes of facing bricks require $\frac{1}{8}$-inch joint, and the sizes of these would then be $8\frac{7}{8}$ by $4\frac{3}{8}$ by $2\frac{7}{8}$ inches. For bricks that require $\frac{1}{4}$-inch joint the sizes would be less by $\frac{1}{8}$ inch, viz. $8\frac{3}{4}$ by $4\frac{1}{4}$ by $2\frac{3}{4}$ inches. Personally I have always worked on the above rule, and found it can adjust itself to the present requirements, giving less trouble than in cases where other size bricks have been introduced. The question of the thickness of the joint has in my experience been the greatest source of trouble."

Mr. A. Harston wrote saying:—"The size I endeavour to promulgate is $8\frac{7}{8}$ inches long, $4\frac{1}{4}$ inches wide, $2\frac{5}{8}$ inches thick. I have had to reject very good stock bricks because the length exceeded $9\frac{1}{4}$ inches without any proportionate increase of width, but the maker took no interest in altering to proper size, as he could sell faster than he could make. On the other hand, I have had red pressed bricks sent to build a 9-inch wall fair on both sides, where two widths of the stretchers placed dry side by side without space for joint, exceeded by $\frac{1}{2}$ inch the length of the stretchers, and the brickmaker appeared to be quite unaware of the fact. I had to convince him by asking him to experiment by building a dry 9-inch wall without having recessed headers, which, of course, he failed in attempting."

Mr. Joplin, brickmaker, in opening the discussion, said he saw no great difficulty in having a standard size if architects kept to their proposal. Let architects decide on the standard size to be adopted, mention it in their specifications, and, what was very important, rigorously reject all bricks that did not agree with it. There would not be much independent support from manufacturers, who did not trouble so long as they were able to find a sale for their bricks. It seemed to him that the bricks could be produced of any thickness required, so long as the length and width were decided on. He suggested that a representative committee be formed to discuss the question, and that it consist of an architect, a contractor, a surveyor and a brickmaker. He thought there would be very little difficulty from the builder's point of view so long as the bonding was secured.

Mr. H. W. Richards considered the great obstacle was the maintaining the header and stretcher arrangement. If that could be assured the meeting would not have been in vain.

Mr. J. C. Hill, past-president of the Clayworkers' Association, said that in his opinion the greatest objection, from a practical point of view, was the inevitable shrinkage of bricks while being kiln-burnt. This was especially true of hand-made bricks; the majority of his own bricks being machine-made it would not cause so much difference to him, though even he was not exempt, as the die shrank while the box grew larger. Personally, he would very much like for a standard size of brick to be universally required, for in railway tunnelling the contractors insisted on being furnished with a 3-inch brick, which he found very objectionable. He thought that for the scheme to be practical a fair latitude for difference should be allowed, it being impossible to regulate with exactitude the size in bricks, particularly in the case of hand-made. It would be sufficient if architects insisted on having a fair average size. Of course if the size was large, there must be an increase of cost.

Mr. George Wragge (of Eastwoods) objected to the last speaker calling hand brickmakers "slop" brickmakers. These were quite as good as any to be found in the market. Brickmakers were capable of turning out bricks of any size if they were paid to do so. The difference in size was found inconvenient, for when a Scottish contractor came to the South of England he expected to get as large a brick as was in use at Edinburgh.

Mr. B. J. Dicksee, architect, said that the Committee in determining the size to be suggested had been guided by the bricks generally in use. If they had consulted their own wishes a larger size would have been proposed. The easiest way of getting a regular size was that all bricks should be kiln-burnt. As a previous speaker had pointed out, as one consequence of bricks being regular in size makers would be unable to supply architects with bricks of certain required tints. In order to get a dark-red, for instance, they had to be kept in the kiln a longer time than those of a lighter colour, but this made them smaller in dimension.

Mr. S. E. Collier (of Reading) said he hardly liked to make suggestions, as by so doing he might be committing manufacturers in the south to ideas of which they did not approve. He, therefore, thought it would be fairer if the opinion of every brickmaker of importance could be obtained as to the advantage or difficulty of having uniformity of measurement. He concurred with the other speakers in thinking that standardising would be a good work if it could be accomplished.

Mr. Goodenough very seriously doubted whether it was possible economically to effect the change owing to the tremendous variation of the earths in various parts of England; the drying was also another hindrance.

Mr. T. Blashill then proposed that a resolution should be put that a committee be formed to inquire into and decide on the question of standardising bricks. He pointed out that if the meeting was to come to any definite result they must find out whether it would be any use to proceed further into the question. He said that architects would not make too exact demands so long as the brickmakers did their best to conform with the size fixed on.

This was seconded by Mr. H. W. Richards.

The majority of the meeting being under the impression that the motion was for the fixing of a standard there and then, and not that the question should merely be transferred before a more representative committee, continued the discussion.

Mr. Bates said that brickmakers could do anything that was desired if they were given the proportions of length to breadth. Having had an experience of brickmaking over all England and in America, he was certain that the wisest course would be to fix on a small size. The American bricks were smaller than those in England, but were, he thought, better. He found also that he did more work with the South of England or small bricks than with the northern varieties. He doubted whether the joint committee, in laying down the regulations, realised the great difficulty of the bricklayer to regulate the joint. The whim of the clerk of works, who was very often quite ignorant in the matter, prevented the intelligent bricklayer taking any interest in his work.

Mr. Hill proposed that there should be two distinct standard sizes—one for facing brick and a smaller one for inside work.

A later speaker remarked that many millions of bricks were made and sold for which at the time of ordering no specified size was mentioned. Were those brickmakers to conform with the rest? In any case, a manufacturer who had bricks rejected because they were not as specified could always dispose of them to contractors who were not so particular. It was suggested that the specified size should vary in certain parts of the country. If not, were the north to come down or the south to go up in their size of bricks?

Mr. Hill proposed that it should be discussed by the different local authorities.

On a show of hands it was declared that the motion had been unanimously carried that a committee be formed to consider standardising the size of bricks.

After a vote of thanks to the Chairman the proceedings terminated.

ARCHITECT'S FEES.

THE case Matcham *v.* the Northern Theatres Company, Ltd., was heard by Mr. Justice Mathew and a special jury. The plaintiff, Mr. Frank Matcham, architect, sought to recover from the company a sum of 1,059*l.* 12*s.* for fees and charges for designing and supplying plans and obtaining tenders for the erection of a proposed new theatre at Huddersfield. The defendants said that the charges were excessive and unreasonable. They further said that the plaintiff was employed as their architect for the construction of the theatre in question for a commission of 4 per cent. on the cost of the building, subject to the express condition that the total cost of the theatre was not to exceed 15,000*l.* The minimum cost of the theatre if built in accordance with the plaintiff's plans would have been 28,000*l.*, and the defendants therefore decided that the theatre should not be proceeded with, and the work done by the plaintiff was of no use to the defendants. They therefore maintained they were not liable to pay him anything.

The plaintiff stated that he had built a great number of theatres in the provinces, and on May 3, 1899, he saw Mr. Robinson, one of the directors of the defendant company, with reference to the erection of a theatre at Huddersfield. It was mentioned that the cost of the theatre was to be about 15,000*l*, but witness said he could express no opinion as to the cost until he saw the site. Witness was appointed architect and was to be paid 5 per cent. on the lowest tender. A local architect, Mr. Ben Stocks, was to act with him and was to receive 1 per cent. out of witness's commission. Witness proceeded to execute all the necessary work and to get out the quantities. He employed a quantity surveyor to get out the quantities, as that was not architect's work. On January 17, 1900, the directors resolved not to proceed with the erection of the theatre. No suggestion had ever up to that time been made that he was not to be paid if the cost of the theatre exceeded 15,000*l.* It was intended that the theatre should be built of brick and terra-cotta, but the ground landlord, Sir John Ramsden, objected to this, and insisted on stone being used. In consequence of this greater expense was involved than had been foreseen.

In cross-examination witness said that he had designed theatres at Bury, Rochdale and Halifax, but was unaware that they each cost considerably less than 15,000*l.* He never said he thought he could erect the theatre for 12,000*l.*, and never mentioned any figure. He could not say what the cost would be until he had prepared most of his plans. He did not feel called on to write and tell the defendants that the theatre would cost over 20,000*l.*

Evidence was given that the plans and quantities had been most carefully prepared, and that numerous extras, which were proposed to be added to the theatre, involved an additional cost of 7,495*l.* When the work was not carried out the custom was that the architect should receive 2½ per cent. on the estimated cost.

For the defence it was contended that the defendants were a body of business men, and as directors of the theatre company were bound to erect a theatre at the lowest possible cost, so that it would pay the shareholders in the company. The essential point of Mr. Matcham's employment was that the cost of the theatre was to be limited to 15,000*l.*, and that he was to prepare plans for a building to be constructed at that cost. Mr. Matcham introduced himself to the directors with the recommendation that he could erect a theatre more cheaply than any other architect, and the plans which he had produced were of no use to the defendants, for the theatre he designed would have cost 28,000*l.* The plaintiff had made a grave mistake, which prevented the defendants from carrying out their undertaking, and yet he claimed to be paid as though he had made no mistake at all.

Several directors of the company and the local architect gave evidence in support of the defendants' case.

The jury found a verdict for the plaintiff for 325*l.*, and judgment was given accordingly.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A SPECIAL general meeting of the Institute was held on Monday evening last, Mr. E. A. Gruning, vice-president, in the chair.

The Chairman reminded the members present that the meeting was convened to consider various resolutions submitted by Mr. William Woodward.

The proposed resolutions were six in number, and a copy of them was published in last week's *Architect.*

The Secretary read the following letters he had received.

The president, Mr. Wm. Emerson, wrote :—

With regard to the meeting convened for Monday *re* the competition for the Queen's Memorial, will you—as I shall not be in town—inform the meeting from me that the committee discussed and considered the three points as to whether—

(*a*) An architect of eminence should be selected to prepare designs ;
(*b*) There should be an open competition ;
(*c*) If a few names should be selected to prepare designs, being remunerated for the same.

The committee, after considerable discussion, agreed to adopt the latter course.

Beyond supplying this information, I do not think there is anything further for me to say on the matter.

Mr. J. MacVicar Anderson wrote :—I regret that I am unable to attend the special general meeting of the R.I.B.A. this evening, and that I am thus obliged to resort to the less satisfactory medium of pen and ink in order to express my views, which I hope you will do me the favour to convey to the meeting.

I wish to enter the strongest possible protest against the object for which the meeting has been convened as expressed in the resolutions to be submitted.

It may be matter of opinion what might have been the best course to have adopted in regard to the Queen Victoria Memorial—whether to have selected an individual in whom confidence could be reposed, or to have a limited competition, or to have an open competition. Personally, the last proposition is the one against which I should have voted, but that is not the point of my protest. If the nation desire that it be left open to all to submit suggestions, let this be expressed through the nation's representatives or the Press. What I strongly feel is, that the very last body which should express such views as are embodied in the resolutions to be submitted this evening is the Royal Institute of British Architects, for its doing so would be tantamount to asking that its members who have not been invited to submit suggestions should be permitted to do so. Anything more undignified, or less professional, I cannot conceive. The matter has already been carefully considered by the responsible advisers of the Crown and by a committee composed of the official representatives of experts—among them the President of the R.I.B.A.—and the procedure recommended by them and adopted by the King should in my opinion be accepted by all in a spirit of loyalty, as I feel sure would have been the wish of our much lamented Queen.

For the foregoing reasons—which I hope I have expressed clearly and concisely—I most strongly protest against the resolutions which are to be submitted to the meeting this evening ; and should the Institute be so devoid of what, in my judgment, is due to itself in point of dignity and professional etiquette as to adopt them, I must respectfully request that such adoption may be accompanied by this protest.

Mr. John Coulson Nicol wrote :—Referring to your circular calling a meeting of the Institute for Monday next, I regret my inability to be present at this special meeting to support the resolutions submitted by Mr. Wm. Woodward, but trust that they will be carried, as, in the interest of the profession, they deserve to be. It is also most desirable at the present juncture that your president and individual members of your council should state at this meeting, for the guidance of those who are asked to re-elect them, what their views are and what their action has been with regard to this national subject, and whether they are prepared to support the general principle of competition amongst architects or otherwise when asked to advise or express an opinion to public bodies ; also whether they are prepared to support and actively assist the Birmingham Architectural Association in their present endeavour to induce the council of the New University to reconsider their decision with respect to the appointment of Messrs. Webb & Bell as architects for the proposed technical buildings at Birmingham.

Mr Philip A. Robson, in a letter, offered the following suggestion :—Let there be three architectural competitions. One, universal, with designs on a very small scale, adjudicated by a strong international committee with a British predominance ; two, a selected competition, the number being dependent on the merits of the designs sent in for the first (but not exceeding one hundred)—the competitors for this second competition to be adequately paid for elaborating their previous schemes and preparing models ; lastly, the final competition, limited to three, from which one design is to be selected. Then let the final design be elaborated, and let there be a single competition for the sculpture by means of models. All these competitions would be adjudicated by the same committee and the designs publicly exhibited for the benefit of the fund.

Mr. Wm. Woodward, in moving the adoption of the resolutions, thanked the Council for having afforded members the means of meeting together on the earliest opportunity to discuss this important subject. The resolutions he submitted were only tentative, and were put forward in the hope of a discussion which might result in the framing of one unanimous resolution or resolutions desiring that the competition should be an open one. The speaker said that with regard to the letters, particularly the one from their past-president, Mr. MacVicar Anderson, whom they all respected and honoured, they need pay but slight attention. They were desirous of doing the best they could to show that art in this country was not on the ebb. Mr. Anderson referred to the Press. The speaker thought that if ever there was a subject which engaged the attention of the Press it was this particular one of the Memorial to Queen Victoria. Leading articles had been written, carefully pointing out that the nation desired that this Memorial should be open to public competition. As the funds were raised by public subscription, it was only natural that the people should wish to partake in the disbursement of those funds, and it was to give expression to the disapproval of the present scheme that the meeting was arranged. Their President's letter gave no information of what steps he had taken in the matter, as representing the feelings of the Institute. Although five architects had been selected to act on the committee, it would be impossible for those five men to know the particular character of the design that was desired for this Memorial. A number of architects could act together if their endeavours were towards a cathedral or an hospital, but in this instance experience could not strengthen the selection, as no one architect or five architects had ever had the opportunity of showing their power in this particular direction. The subject was unique. The trouble to the assessors in the case of an open competition need not be great. It was very easy for any committee to rapidly select in a first inspection designs which were worthy of further consideration, and this without any cost to themselves. They were more likely to obtain talent by open competition than otherwise, and on this account he had proposed his resolutions.

Professor Beresford Pite said he sympathised with Mr. Woodward in his position, but he did not think it advisable to put forward the resolutions in the manner suggested. He submitted an amendment.

The Chairman ruled an amendment out of order until the resolutions had been seconded.

The resolutions having been seconded, Professor Pite read the following as an amendment:—"That considering the deep and widespread interest manifested throughout the Empire in the proposed national Memorial to Her late lamented Majesty Queen Victoria, and in view of the limited opportunities for the exercise of monumental design in London that have been offered during recent years, and the absence of useful precedents, this special general meeting of the Royal Institute of British Architects, of which Her late lamented Majesty was patron throughout her long reign, respectfully urges upon the executive committee of the National Memorial its earnest conviction that designs should be invited in open competition from all British architects for this most important and unique monument, which it hopes would thus become representative of the best and most enthusiastic efforts of modern monumental architectural art. And, further, this meeting would suggest to the executive committee the necessity of affording sufficient time for the preparation and submission of designs by architects resident in all parts of the empire, of whom many are members of this Royal Institute." The speaker reminded them that the subject had not been before the Council of the Institute, and that the President, in his official capacity as a member of the Memorial committee, was bound to keep secret the business of that committee. They could all say with certainty that whatever action he had taken in the matter had been in the interests of the profession. They must all admit that their President had acted perfectly right in not revealing what had taken place at the meeting of the board of selection. At the same time, following upon the information in his letter, it left it perfectly open for them to discuss one or other of the questions which had been already before the committee. If a mistake had been made in the undue haste of the committee the mistake must surely be rectified. Even an official mistake could be rectified, and this was an error in judgment only. He thought that if the meeting confined themselves to that point they could discuss the subject with dignity. The Council had been from time to time doing their best to repress competition as bad, but he thought it was only the abuses of the competitive system that were wrong. With regard to the possible success of the competition it should be borne in mind that in monumental architecture there was very little stimulus to go upon. The only fine monument of their era in London, the Wellington Monument in St. Paul's, was the result of open competition, and the sculptor would never have been selected by any committee.

Mr. H. V. Lanchester seconded the amendment, supported by many of those present.

Mr. Maurice B. Adams, though he agreed with the remarks of Professor Pite, felt that the meeting would make a great mistake if they carried the resolution. Their President was a member of the committee, and they might be sure he had done his best for the profession at large. They were perfectly justified in protesting, but if such an attitude would only bring ridicule on the Institute it would be very much better to leave the matter alone.

Many other members joined in the discussion. The resolution as amended was carried by a large majority and the meeting terminated.

CARDIFF, SOUTH WALES AND MONMOUTHSHIRE ARCHITECTS' SOCIETY.

THE annual dinner of this Society was held at the Royal Hotel, Cardiff, on Saturday evening. Mr. George Thomas (president of the Society) took the chair.

The loyal toasts having been submitted by the Chairman,

The toast of "The Cardiff, South Wales and Monmouthshire Architects' Society and the Royal Institute of British Architects" was proposed by Mr. G. C. Downing.

The Chairman, in the course of his reply, said that he could not speak in very congratulatory terms as to the present state of architectural practice in the district. The building trade, with which of necessity architecture was closely bound up, had not yet recovered from the effects of the great coal strike of a few years ago. In industrial depressions the building trade was the last to feel the effects of the depression, and the last to recover from its effects. Public work was in a very much more satisfactory condition. As to the importance of the better education of architects, one of the most useful works that their Society had done was the formation of an associates' branch open to pupils and architects' assistants. In connection with this branch of the work, prizes were offered for the best measured drawings taken from some existing examples of old work. The first prize—10*l.* 10*s.*—was given by the Society conditionally that the money be spent by the winner on a holiday sketching tour. This was won by Mr. Pritchard, a pupil of Messrs. J. P. Jones, Richards & Budgen, the work done being measured drawings of portions of Llandaff Cathedral and the drawings of the porch of St. Mary's Church, Usk. The second prize—5*l.* 5*s.*—given by Mr. Bruce-Vaughan, was won by Mr. J. Petter, a pupil in Mr. Edwin Seward's office, who submitted measured drawings and sketches of Yeovil Church. Both of these gentlemen's works were of such an excellent character that the committee of selection had great difficulty in deciding as to whom should be awarded the palm. The third prize—2*l.* 2*s.*—given by Mr. Caple, was awarded to Mr. Ivor Jones, an assistant to Messrs. Jones, Richards & Budgen, and a son of the late Mr. J. P. Jones, for measured drawings of the archways in Tintern Abbey. The promotion of the study of architecture as an art and science was well worthy the consideration of our Welsh educational bodies. The next important question was that of the present status of the architect. At present anyone without any architectural training could practise as an architect. He acted a great deal as an arbitrator and in other ways in connection with building disputes, and his experience was that the majority of cases of litigation arising out of building disputes were mainly due to the fact that the architects employed had not been duly educated, and it was very important in the interests of the public that they should have some safeguard that the architect should be competent. The third subject that affected them was the present system of competition. No matter how fairly the promoters of competitions prepared their conditions, there was always a great deal of heart-burning, and he did not think there was any other profession that would submit to the conditions under which architects competed for all kinds of buildings. It was nothing unusual to have forty or fifty or more designs sent in for buildings costing 10,000*l.* or 20,000*l.*, and the whole commission was often spent by the profession collectively in the cost of designs so as to enable the client to get the choice of the best, and even after all this waste labour and thought the successful design was often completely remodelled to suit the client's views. In this they had only themselves to thank, because, if they were more united, they could decline to compete unless upon reasonable terms.

Mr. Locke (secretary of the Royal Institute of British Architects) also returned thanks.

Mr. H. V. Lanchester gave "The Master Builders," and Mr. W. Thomas replied.

NORTHAMPTONSHIRE ARCHÆOLOGY.

ON Monday, April 15, the members of the Architectural and Archæological Society for the Archdeaconries of Northampton and Oakham enjoyed a very pleasant half-day excursion, although the weather was somewhat cold and stormy. Most of the members proceeded to Market Harborough by the 12.55 train, where they were met by carriages, and the party, numbering about twenty, drove to Dingley. At Dingley they were met by the rector, the Rev. E. Hughes, and the Rev. A. W. Pulteney. All Saints Church, Dingley, was inspected, and by the courtesy of Lord Downe the party were able to see Dingley Hall. At Brampton Ash the party was met by the rector, the Rev. Canon Smith, who is the oldest member of the Society, in the church of the Blessed Virgin. At this place there was no lack of architectural interest, and for a church of its dimensions Brampton may justly be reckoned amongst the gems of Northamptonshire. The party next proceeded to Stoke Albany manor-house, which was a portion of the mansion of the Lord De Roos, who were the descendants of the Albini, from whom this village takes its distinctive name. The church, of which there is some difference of opinion as to the original dedication, preference now being given to St. Botolph as the patron, was shown under the conductorship of the Rev. R. Copeman, who also conducted the party over the church of All Saints, Wilbarston. After visiting the church of the Blessed Virgin at Ashley (King's Book, All Saints), which, though a good example of a Northamptonshire parish church, has no great claim to architectural beauty, the party adjourned to the Rectory, where they were hospitably entertained by the Rev. A. W. Pulteney.

Mr. St. John Hope has issued his new plan of Furness Abbey for the Cumberland and Westmoreland Antiquarian Society. During the excavations which commenced a few weeks ago another fireplace was unearthed. The stone figures of a knight and his wife, which were once removed from the chancel, are now supposed to be those of William de Lancaster III. and his wife, who died over 651 years ago.

NOTES AND COMMENTS.

The exhibition of the Royal Society of Painters in Water-Colours is essentially a quiet one. Nothing striking is shown on the walls, though there are several drawings which will sustain the reputation of the Society for careful and correct work. Mr. Robert Little has used his colours boldly in *A Jacobite Gathering*. Three excellent seascapes have been contributed by Mr. C. Napier Hemy, the best being *Three Fishers*, showing a smack rushing through the water. *Way Enough*, by Mr. R. W. Allan, is good, but the scene lacks the force of Mr. Hemy's waves. In *The Land of Egypt* Mr. Albert Goodwin is more mysterious than usual. One view is taken from the site of the "Roman Babylon." What looks to be a great bank of sand divides the living from the dead city; as the night has nearly drawn-in a multi-coloured break in the clouds adds to the effect. His view of Pisa from outside the city walls is as light as the other is gloomy. He also shows views of Canterbury, Wells and Durham. At first sight Mr. A. Melville's *A Highland Autumn* might be mistaken for an elaborately decorated garden, with large fancy lamps represented by unsupported blots of colour hovering about the trees. There are two small studies by Sir L. Alma-Tadema for "Coriolanus," one being Antium the other the interior of Caius Marcius's house. Both are full of interest and in different ways. Antium is seen by moonlight; the house of Aufidius in the foreground is still illuminated, and stands out in striking contrast to the beautiful temples. Carl Haag's two drawings of an Arabic man and woman are painstaking, but hardly do justice to his powers. Mr. W. Callow has several pleasant scenes. *The Princess out of School*, by E. R. Hughes, is an attractive work. On the whole, the exhibition, if not startling, will recall many old and pleasant associations.

Beautiful as the galleries of the Louvre have been in the eyes of visitors, they are likely to be considered as having additional charm when the crowd of visitors arrive during the coming summer. Although old frequenters have grumbled about the transformation of the rooms, in the eyes of others the different changes have been advantageous. In the first place, they show how elastic is the building. An unlimited number apparently of new *salles* can be formed without the least alteration of familiar features. In fact, it is the skill by which parts are changed and parts left unchanged which demonstrates the tact of the conservators. Five *salles* are now in course of arrangement which will be devoted to furniture alone. The majority of French people were unable to realise that the Garde-Meuble was an invaluable pantechnicon, where most precious objects were deposited and were unknown to all but the functionaries. The system which made the officials the envy of those in other departments is at an end. The Garde-Meuble is now expected to afford supplies for exhibitions, and however numerous may be the demands, to uphold at all times the supremacy of French industrial art. The five *salles* which are being arranged at the Louvre are expected to contain nothing but treasures of all the arts connected with furnishing. But if it should be proposed to increase the number of galleries in the Louvre or to establish others in the Paris museums, the quality demanded will be at least as high.

The interesting paper on "The Greek Retreat from India," which Sir T. H. Holdich, R.E., read before the Society of Arts, might appear more apposite if it formed part of the proceedings of the Hellenic Society. But the expedition was mainly scientific, and was accompanied by specialists of various classes, whose services, however, would be ignored by students of Greek archæology. There was no doubt Alexander made his way to the shrine of Hinglaz on the Hingol river, which is one of the oldest in the world. Sir Thomas Holdich says it is sacred to the goddess Nana (now identified with Siva by Hindus), and the Assyrian or Persian goddess Nana is of such immense antiquity that she has furnished to us the key to an older chronology even than that of Egypt. The famous cylinder of Assurbanipal, king of Assyria, tells us that in the year 645 B.C. he destroyed Susa, the capital of Elam, and from its temple he carried back the Chaldean goddess Nana, and by the express command of the goddess herself took her from whence she had dwelt in Elam, "a place not appointed her," and reinstated her in her own sanctuary at Urukh (now Warka in Mesopotamia), whence she had originally been taken 1,635 years before by a conquering king of Elam who had invaded Accad territory. Thus she was clearly a well-established deity in Mesopotamia 2,280 years B.C. Alexander, however, would have left Ziarat hidden away in the folds of the Hinglaz mountain on his left, and followed the windings of the Hingol river some forty miles to its junction with a stream from the west, which would again give him the chance of striking out parallel to the coast. Sir George Birdwood contended there was no retreat, for the aim of Alexander was not to devastate countries and exact tribute from them, but to advance civilisation and to promote the Hellenisation of the world. He was eager to weld the Persians and Indians and Greeks into a united *élite* people, of one scientific, literary, artistic and religious culture, if not of one actual race, and to do this chiefly through promoting commerce between them. At every step of his so-called "conquests" the Greek language and Greek art were planted out, and took firm root and flourished, and the Greek, or rather Hellenised kingdoms founded by him in every part of Anterior Asia continued to exist for centuries after his death.

The question has again cropped up about the right of the Governors to dispose of the buildings known as Christ's Hospital in Newgate Street. Meanwhile many of the relics of the London buildings have been removed to the new schools on the clay lands near Horsham. There can now be seen the statue of King Edward VI., several of the portraits, and various pieces of the woodwork. One of the most extraordinary connections between the old school and the new will be the picture by Antonio Verrio representing James II. upon a throne surrounded by his courtiers and receiving the mathematical pupils at the annual presentation. The picture is one of the largest movable works in the world, for it measures 86 feet 2 inches by 16 feet 2 inches, and its weight is about 2½ tons. It is generally supposed that James II. was hated in London. It is, therefore, remarkable to find such a picture in an institution which was almost as representative of the London character as the Corporation itself. But what is, perhaps, most extraordinary is the fact of so immense a work being accepted as a present from a painter who was so notoriously poor. Nobody could seriously disapprove of Verrio's production of the king, although he might be called a tyrant. By birth the artist was a Neapolitan, and to him gods and goddesses and Roman emperors were of far more importance than the people around him. Charles II. brought him to England to hold an office corresponding with Le Brun's in France, for he was to be the tapestry designer at the Mortlake factory. Then changing his mind the king allowed him unrestrained liberty in the decoration of Windsor Castle. In one of his Scripture pieces Verrio introduced Sir Godfrey Kneller, May, the Surveyor of Works, and himself as spectators of Christ's miracle. On Charles's death he held on by James II., and to show his loyalty painted the picture in Christ's Hospital, but James was not destined to remain a patron for a long period. At first Verrio declined to execute any commissions for William III.; but circumstances got the better of loyalty, and he adorned Hampton Court in a way that might be taken for indifference towards the new régime. Then his eyes failed, and Queen Anne out of pity allowed him a pension of 200*l*. a year, which he was not fated to enjoy for many years.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: CROSS VIEW TO NAVE FROM SOUTH TRANSEPT.

DESIGN FOR HOLBORN AND STRAND IMPROVEMENT.

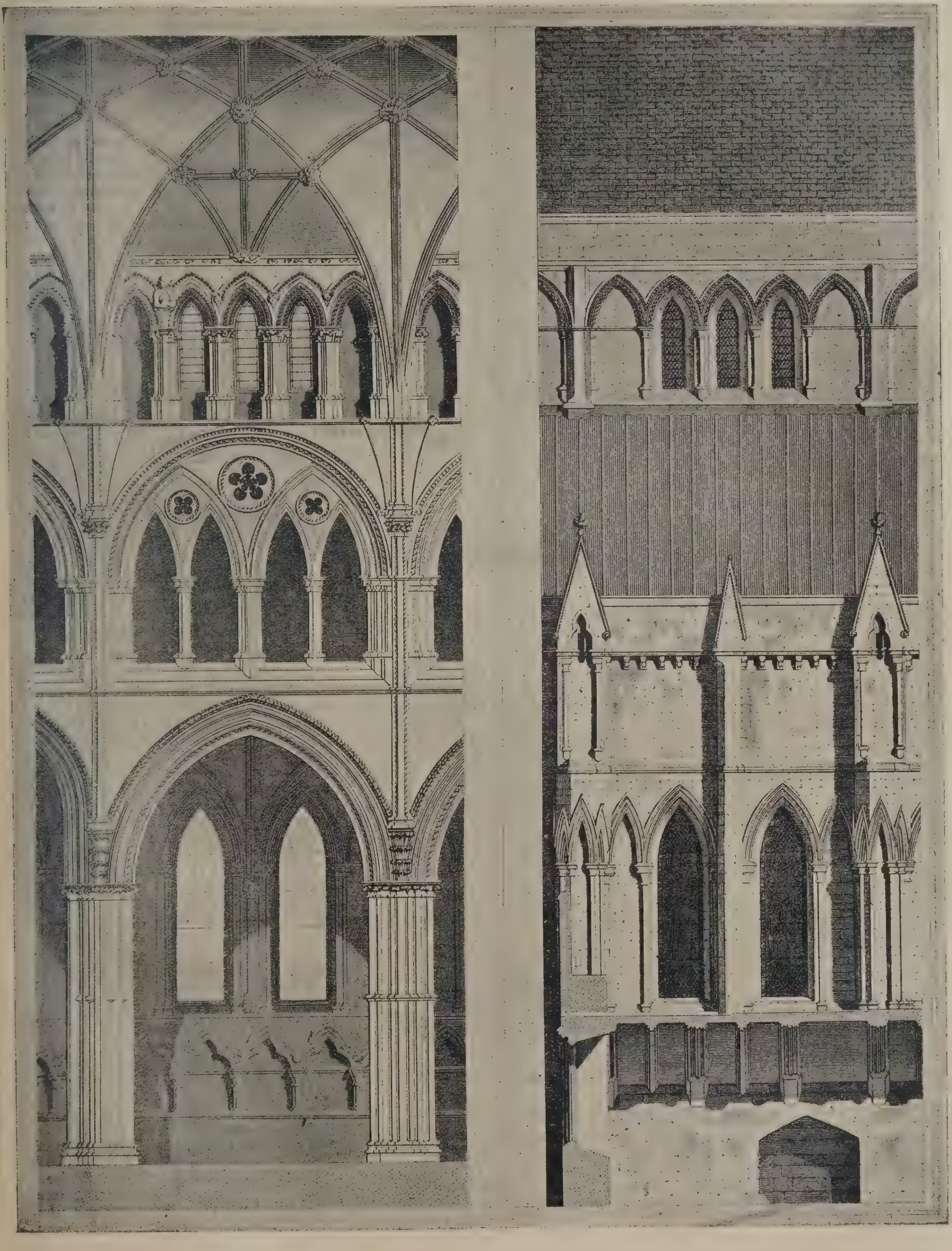
FIRE BRIGADE STATION, FULHAM ROAD.

HOUSES AT HARROGATE.

YORK CATHEDRAL: SOUTH TRANSEPT.

EXTERIOR AND INTERIOR OF ONE COMPARTMENT.

AS the visitor to York Cathedral enters through the south transept, that part of the building should be generally known. It rarely happens, however, that adequate attention is given to the transept, for people are attracted by the lantern and by the more distant northern transept, and are also eager to become acquainted with the nave and choir. It is believed that the south transept was erected in the episcopate of Archbishop WALTER GRAY, or, in other words, between 1227 and 1240. The style is refined Early English, and the lancet-shaped windows give effect from their simplicity. The two sides of the transept are not uniform in detail, and the north and south transepts do not correspond. It is also unfortunate that some of the arches in the south transept have evidently been unable to resist the pressure of the lantern, and are less true than is desirable in a Gothic building. The illustration will show the relation between interior and exterior, which is skilfully varied.



EIGHTEENTH-CENTURY ARCHITECTURE OF BATH.*

(*Concluded from last week*)

THE mansion of Prior Park was the largest and best work of Wood, and was begun about 1735. Let him speak as to its origin:—"The reflection cast upon the freestone of the hills of Bath brought him (Mr. Allen) to a resolution to exhibit it in a seat which he had determined to build for himself near his works, to much greater advantage and in much greater variety of uses than it had ever appeared in any other structure. Thus it was that Ralph Allen, whose little house in Lilliput Alley we have seen, came to build himself such a vast country mansion."

The scheme of the design was threefold—a central mansion with east and west wings and a pavilion placed between these three more important buildings, the mansion occupying about 150 feet, and the whole line of building from end to end about 1,200 to 1,300 feet in length. The south side of the mansion, facing up the hill towards Combe Down, and at a height of about 460 feet above sea-level, consists of a hexastyle Ionic front with attached columns, and this forms the entrance; the windows on either side are simple in the extreme, bearing a strong contrast to those on the north side and the two ends. Immediately below the cornice there were originally windows along the frieze, which gave light to the garrets; they are now nearly all blocked up. The basement storey lies in an area and there are no balusters in the parapet.

The north side looking towards the city is a fine front and is full of detail. In the first place the natural slope of the ground allowed of the basement being entirely exposed as shown on the elevation which is the original design of Wood, who had never intended the flight of steps as now seen, although I cannot help thinking that this has added greatly to the dignity of the building. The fine projecting hexastyle portico was intended to be a rival, and something more, to the one which the architect, Colin Campbell, had erected at Wanstead House, in Essex, for whereas that one had columns of 3 feet in diameter, these were 3 feet 1½ inch, and on the return side are two complete intervals between the columns instead of one and a small portion of another as at Wanstead.

On this front and the two ends there is an open balustrade, and the windows of the ground and first floors are dressed with moulded architraves and heads, those on the ground floor resembling the ones which are seen in the villa at Belcombe Brook. Originally the detail of these was intended to be richer still.

A word or two as to the building of this house, as Wood gives it: 800 tons or 16,000 cubic feet of freestone in large block are buried underground to make the foundation walls as strong as the nature of the ground seemed to require. After this the walls of the basement were built inside and out with freestone, the ceilings of the rooms and passages were arched or vaulted over in stone, and the floor was paved with a harder kind called ragstone. These rooms are 12 feet high in the clear, and the passage, which runs through the length of the house, is 1 foot lower in height, and is divided into five parts, being the chief ornament of this portion of the house, while the architraves of the door cases were moulded upon their external faces. The ground floor was 16 feet high. The hall, which extends from front to back of the building, and has eight Corinthian columns to support the floor above, was originally covered over entirely, but has now been opened in the middle so that one sees from below the cove and ceiling of the upper storey, the former with its rich ornamental plasterwork. The pilasters and caps are of stone.

The walls of the ground floor are built entirely of freestone, both outside and in, and the fixed ornamental parts of the hall and other parts were originally of stone also, though those of the dining and drawing rooms were afterwards cut off, and these rooms lined with wood. There is great refinement in the door-head of the dining-room, and the mouldings of the door panels are also enriched. It is curious to contrast this with the naturalesque treatment in the pilasters.

Of much the same general character is the drawing-room, but an elaborate mass of carving over the fireplace, wonderful as it may be, seems inconsistent with the dignity of the other parts. This carving is said to have come from Hound Street House. The type of fireplace is not uncommon in Bath.

In the west wing of the mansion, which was finished in 1737, and was the first part completed, is a fine piece of vaulting, which is one of the best bits of architecture in the whole building. The pendentives are crowned with a small flat dome. This was intended for stables and coach-house and suchlike buildings, and was simple in its first design. Like other parts, it was lined with freestone.

The east wing was altered from Wood's design. It shows a good three-light window at the first floor, with a Doric entrance below.

Prior Park was finished in 1743.

Two fine sweeps of stone steps with balustrades and vases form an architectural treatment of the gardens below the great portico. They were executed by Bishop Baines about 1830.

At the foot of the slope lies the Palladian Bridge, considered to be the work of Wood. Here are the old fishponds once belonging to the Priory of Bath, and from which Prior Park takes its name.

The interior of the bridge is well treated. Except the ceiling all is of stone, and the entablature has the swelling frieze, which Wood was so fond of. The balusters here are of a rather unusual type, being Venetian in character, and it must be admitted are not like those which he usually designed.

Before leaving Prior Park I should like to show you a view of the stone staircase of a later date in the west wing, and also a doorway in the present church which was brought from Hound Street House, near Shepton Mallet, on the destruction of that place about the year 1848. The work upon it is the most refined of any to be seen in this district, and, indeed, it may have been brought from Italy.

When Wood's scheme for building a grand parade on the south side of Queen Square was abandoned and Wood Street, which had been intended to be 100 feet wide, was reduced to about half that amount, Wood turned his attention to the large space at the south-east side of the city, and began to lay out his ground and buildings on a large scale. This space was the old Abbey Orchard, and the plan will show his ideas and how far they were carried out. At the top left-hand corner is seen the east end of the abbey, and to the right the Orange Grove; on the south is St. Peter's Gate, leading thence to the Terrace Walk, where on the east side are Harrison's Rooms and on the west Lindsay's Assembly House, which Wood completed in 1730. West of this lay Mr. Allen's garden and town house, abutting on to Lilliput Alley on one side, while his garden ran northwards as far as the abbey church. The triangular space between this part and the river was to be a spacious open area called St. James's Triangle, with the Grand Parade south of it, then some large blocks of houses, and the Royal Forum beyond that again, facing to the south, now known as the South Parade, and still more buildings beyond.

The first stone of the first house of the Grand Parade (now North Parade) was laid on March 10, 1739-40. It was intended to have adorned the middle block of buildings with Corinthian columns and pilasters, but through a scheme which came about among the tenants the ornament was cast aside and the whole executed in a plain manner, as we see it to-day.

The Royal Forum, or South Parade, was begun in January 1742-43.

The opening under the house on the west of Pierrepont Street was called St. James's Portico, and was erected by Wood, as well as the houses in the same street.

At the end of Lilliput Alley, now North Parade Passage, is a house which is interesting as showing one of the few shop fronts on the ground-floor now remaining in Bath as originally designed.

A doorway also near here may be noticed as showing the original conception of the glazed door.

Another shop front may be seen at the north-east angle of the abbey churchyard.

South of Ralph Allen's town house, and little known or appreciated, there lies a large court built by Wood, with good houses on either side, of about the date 1740, having doorways with the Corinthian order and often with panelled walls inside, good staircases and much finish of detail. They are North Parade Buildings, formerly called Gallaway's Buildings. The best one is that on the west side at the bottom. The hall is vaulted in plaster, and with a boldly-carved arch springing from pilasters on either side; a step or two further and we see the whole staircase from top to bottom at one glance.

The landing on the second floor having to be set back, and fortunately there being no girders in those days, the superincumbent wall is supported on an ornamented wood beam sustained by two Ionic columns.

One room must suffice as the typical interior. The fireplace is of well-moulded stonework, the walls are panelled, and the cornice is full of detail, though unfortunately now filled in with whitewash. I am pleased to say that this house is particularly well kept up and rather suffers from too much paint than the want of it.

At the west side of Orange Grove stood, until quite recently, an edifice known as Nassau House. It was probably designed and first occupied by Richard Boyle, fourth Earl of Cork and Burlington, about 1730. He was a companion of Pope. After his death in 1753 the house became the Bath residence of the Earl of Howth about 1780, whose daughter, Lady Francis St. Lawrence, married in 1808 the Rector and Archdeacon of Bath, the Rev. J. Phillott.

The chief point of interest in the interior was the staircase.

The name "grove" is derived from the trees that were planted in it, and it was called "Orange" on account of the visit of the Prince of Orange, in commemoration of whom the

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[*] A paper read at the Architectural Association, by Mr. M. A. Green, on Friday, April 19.

obelisk in the centre of the grove was erected in 1734 after the Prince's restoration to health through drinking the Bath waters. It was here that the chairmen would bring those who were going to take the waters, and who afterwards returned to the Grove for conversation or a little constitutional.

It is probable that the same Earl whom we have just mentioned built the house in the Abbey Yard, known as Marshall Wade's, at a little later period than Nassau House. It was this Marshall Wade who was four times M.P. for Bath, and who greatly benefited this part of the city by making a passage between the houses on the north side of the abbey, so that those who wished to walk from the Pump Room to the Orange Grove might do so without entering the church, the north aisle of which had previously served the same purpose. These houses still existed in 1829, as shown on an engraving of that date.

There seems to have been considerable difficulty in the commencement of the Mineral Water Hospital, called then the General Hospital.

The site at first proposed in 1727 was on the north corner of the Ambrey. In 1730 plans were made, but disputes occurring in the conveyance of the land, which involved a delay of many years, the trustees determined to seek a new site, and in 1737 accepted the offer of a piece of ground in the north part of the city. A new set of plans was made in 1738, the work of demolishing the old houses was commenced, and the first stone was laid on July 6 (as seen in the inscription on the east side of the building). Let Wood give his own description of it:—"The hospital as it was finally fixed upon August 25, 1738, became a magnificent pile of buildings, of the Ionic Order, consisting of a ground, principal and a chamber storey, and extending 99 feet in front to the north, 84 feet on the west, and 97 feet on the east. The east and west sides are parallel, but they are not at right angles with the north front, which contains five windows on each side the door, and the central part of it makes a tetrastyle frontispiece of almost whole columns, elevated upon a large plinth and finished with a pediment, whose tympanum was proposed to be adorned with a bas-relief, representing the good Samaritan." This piece of sculpture was omitted, but at a later time was executed by Mr. Elkington Gill in the tympanum of the additional building. The hospital was finished in 1742. The stone and other materials for this building were provided by Ralph Allen.

Although Wood prepared the designs for the grammar school in Broad Street, it is not known that he executed the building. He says that the committee appointed by the Corporation, after proposing to lay out about 3,150*l.* in the purchase of ground and in erecting a building thereon, proceeded no further than to employ him to make a proper design for it, which he completed on September 10, 1742. The architraves round the windows have been cut away to form splays. As shown by the maps of the period, the building seems to have been erected some time between 1750 and 1760.

The "History of Bath," published by John Wood the elder in 1749, though in part a chimerical work, is a valuable addition to the records of the state of the city during the first half of the eighteenth century.

Gay Street was designed by the elder Wood, but executed by his son, and it was in the house at the corner of Queen Square and Gay Street that the younger Wood lived.

The rooms of the circular bay here are planned as a rectangle, with an apse at each end, that facing outwards forming the window, which on the ground floor is treated simply, with rusticated blocks between the architraves; but on the upper floor coupled Ionic columns between and on each side of the lights help to enrich the fine Venetian window. It is, I think, the only instance of Wood having used a circular bay.

The interior is treated with long panels and an enriched plaster cornice. There are Corinthian columns standing at the two angles of the apse, and Ionic pilasters with a pediment over mark the door in the centre of the same; all these are executed in wood and painted.

The panel on this house shows that John Wood the younger was born in 1727 and died in 1781.

The Circus, also designed by the elder Wood, was carried out by his son. It was in 1753, the year before his death, that John Wood the elder entered into an indenture with the Right Hon. William Pitt for the building of a house here; this was No. 7. The buildings were begun in 1754, and they took fifteen years in completion.

A writer at the beginning of the nineteenth century says there was a shrubbery in the middle of the enclosure and a gravel walk surrounding a reservoir which supplied the houses with water. This was, of course, the Circus Waterworks; they are now closed over, but I do not know how long the plane trees that are there have existed. It was at No. 24 that Thomas Gainsborough painted some of his most famous portraits. I should like to point out here that the æsthetic sympathy of the younger Wood with his father is a remarkable feature in his buildings, and it seems to me not unlikely that as Gay Street and the Circus were the designs of the elder Wood, they may have conferred together as to the buildings west of them, and that the younger Wood may have been guided in their development by the advice left him by his deceased father; at any rate, in the Crescent exactly the same use of the order is seen as in Queen Square, though less elaborately worked out, and in the Assembly Rooms the broad treatment of spaces externally and internally is observable as in the work of the elder Wood.

It may not be amiss to make some little comparison between the Circus and the Crescent. Given the idea of a circular line of buildings, the design is largely modified by the space at disposal, and it is very evident that in elaborating the Circus with three distinct orders—Doric, Ionic and Corinthian—all with coupled columns and with bands of ornament at the lower storey in the frieze, and at the top storey between the capitals, and a stone ornament crowning each coupled order, Wood intended to impress the spectator from a near point of view, knowing well that in such a form a distant view would be impossible. For this reason there is much interest in close examination of this work, and the truth of the design is enhanced by the orders being confined to their respective storeys.

But in point of dignity and bold conception it must yield to the Crescent, the very situation of which lends a great charm to its imposing effect. It appears to the spectator almost suddenly, with a broad sweep of lawn stretching in front of it from end to end. The scheme is simple; an entirely plain basement storey supports a large Ionic order, which rises through two storeys, and is crowned with a very deep entablature. The parapet is an open balustrade, but there are no ornaments over the dies; it needs none. The effect is obtained by the dominating order and the bold sweeping circular lines over, unbroken to the roof. Detail is not looked for; it would serve no purpose, but would destroy the dignified simplicity of the whole. At the same time, it must be admitted that this effect is gained by a less legitimate use of the order than in the Circus. It should be noted that originally the roofs, as indeed the roofs throughout Bath, were covered with stone tiles, and a more artistic covering can hardly be conceived. The eye is thus carried up to the topmost part of the building, and sees it as one harmonious whole. The Crescent, which, as we have seen, was the work of the younger Wood, whose buildings we are now considering, was begun in 1767, but not finished till about eight years after.

The diameter of the Circus from house to house is about 320 feet, and the major axis of the Crescent (an ellipse on plan) 550 feet. In the interior treatment of the Crescent the hall has usually an arch with enriched panels in the soffit.

The staircase walls are panelled out with plaster mouldings, and are sometimes enriched with festoons and pateræ.

The walls of the principal rooms are also panelled, and the door-heads enriched with carving.

But the ceilings are the chief means of decoration. The enrichment is nearly always in low relief, though occasionally small subjects such as birds are introduced in the centre in very high relief. The panelling is at times set out geometrically, concentric circles occupying the width of the room, with long panels at the two ends, and an enclosing band of ornament running round the four sides, or perhaps divided into still smaller panels with a variety of forms. The cornice is usually very rich.

A still freer treatment is that where there is a circle of ornament in the middle, with ornaments radiating from the four corners of the room and a panel between, or where the ceiling becomes almost entirely naturalesque.

While noticing these instances from the Crescent, I should like to draw your attention to a beautiful ceiling which exists at Mr. Wood's shop in Old Bond Street (No. 12), and there is a well-known one also at Stuckey's Bank, in Milsom Street.

The beauty of the fireplaces lies in the simplicity of their design and the restraint in the ornament. The marbles used are chiefly white statuary and some coloured marble such as Siena. Ionic columns are usually employed with the entablature breaking round them.

Two porches of the same order as that in the Circus, and, in fact, belonging to it, stand at the east end of Brock Street. The metopes in the frieze display a great variety of devices, which are carried round the entire Circus.

A drawing of Bath taken about 1757 shows the Circus complete, but no indication of Brock Street or the Crescent. It appears to have been the intention of the Woods to build another street beyond the Crescent, and another Crescent beyond that again, but Marlborough Buildings effectually put an end any such scheme.

Brock Street was the work of the younger Wood, and connects the Circus and the Crescent. In it is Margaret's Chapel, which has a good Venetian window overlooking the street.

The first stone of the New Assembly Rooms in Alfred Street, on the east of the Circus, was laid by Wood in May 1769, five years after the proposal to build a somewhat similar set of rooms at the north-west corner of Queen Square. The rooms were finished in 1771, at a cost of 20,000*l*., on ground covering over an acre and a half. They were formerly called the New or Upper Rooms. The planning is exceptionally good.

From the hall in the centre of the building the entrance on the left leads to the large assembly or ball room, that in the middle into the octagon, a room 48 feet in diameter, and that on the right into the smaller assembly or tea room. The entablature over the entrances is supported on Doric columns. The looking-glasses, with their ornaments, are of the same date as the building. In the octagon room is a portrait of Captain Wade, first M.C., painted by Gainsborough, and one of Mr. Tyson, "Arbiter Elegantiarum," 1806. Beyond the octagon lies the card-room, 60 feet long and 30 feet wide.

The ballroom, 105 feet long, 42 feet wide and the same in height, is divided in its altitude into three parts. The substructure is plain, but relieved by good doorways; the middle portion has an attached range of Corinthian columns, with three windows at each end and nine on the side facing north. These windows are ingeniously provided with rising and falling shutters. The third portion of the room is occupied by an immense cove, and above is a flat panelled ceiling.

The most interesting portion of the tea-room is that at the back, where six Ionic columns stand forward some little distance and support a gallery on the first floor, which has an equal number of detached Corinthian columns, while an engaged colonnade of the same order runs all round the room. The ceiling over the gallery is flat and deeply recessed, but above the projecting order rises a great cove with very bold ornamented ribs to form the panelling. Between the columns in the gallery is some good ironwork of the period.

The detail of the doorway in this room will show you the general treatment of the parts throughout the building. Between the carved consoles are festoons carved in wood.

Alfred Street was also built by Wood. The doorway of the last house but one on the side opposite to the Assembly Rooms is one of the richest in Bath—that is to say, the richest, good taste being the standard. The house was called Alfred House from the bust of King Alfred over the doorway. The ironwork well represents the customs of those days in the torch-extinguishers placed on either side above the railings.

It was here that Catharine Macaulay lived for some time and wrote her History of England, dealing with the period of the seventeenth century, eight volumes of which were published by Richard Crutwell and the ninth in London.

It is probable that about 1776 Wood rebuilt the Leper's Bath, adjoining the Hetling Pump Room. This is a piece of work which is little known.

Originally the balustrade was more visible from the street than at present.

About the same time he built Woolley Church, near Bath, the cupola of which is worthy of note.

Possibly a Classic stone font in the interior is by him also.

In 1779 he built Hardenhuish Church, near Chippenham, a cleverly-designed piece of work. The exterior shows a good steeple. On the side is a three-light Venetian window, and the internal treatment is such that the great thickness of the wall is fully set off by the interior Doric columns being set close to the inside of the wall, with a broad arch thrown across corresponding with that on the outside.

John Wood, jun., died in 1781 at the house at Batheaston which his father had built, and the doorway of which we have seen.

Before leaving the history of the Woods I should mention that the Exchange in Bristol was by Wood senior, erected 1740-43; also Redland Court, in the same city, the latter with terraces in the Italian manner.

Shockerwick House, near Box, was built by him in 1750.

There still remain many interesting buildings in Bath which must not be passed over.

Milsom Street was probably designed by Robert Lightholder about 1760. He at any rate designed the Octagon Chapel there, which was opened in 1767. The three best houses are on the east side, and together with those between form a fine group, the basement of all the five having been originally rusticated in the manner of the central one, as shown in Nattes's "Views of Bath," published 1806. He also shows a vase on the top of each of the two pediments. It must be confessed, however, that at times Nattes shows a calm indifference to truth in his details.

About this period the Corporation had to rebuild the old town hall, and one Thomas Attwood, who about the year 1762 had built a family house for the Pulteneys in Grove Street on the further, or Bathwick, side of the river, was instructed to proceed with the matter. This house afterwards became the gaol, and, considering that Attwood's trade was that of a plumber and painter, it shows no little talent. He died, however, from the effects of an accident while the old houses near the Town Hall were being cleared away, and shortly afterwards, in 1774, a plan for a town hall and markets was offered by Thomas Baldwin, who was then only twenty-four years of age, having been born in 1750. These were approved by the Corporation and carried out. Thus Baldwin became the chief follower of the Woods. In 1780 he was made city surveyor, and four years later city architect.

It will be observed that Baldwin's work has not the strength of that of the Woods, but depends more on surface decoration. However, the recessing of the windows here within a great enclosing arch is a good feature, and the rustication, known as vermiculated, with which the central portion of the lower storey is treated, adds immensely to the strength of the whole design.

At this period, nevertheless, the ornamental treatment of interior surfaces was not less beautiful than any that had been before, and the Guildhall contains within its walls perhaps the finest of any.

The soffits of the staircase, as well as the walls and ceiling, were liberally adorned, and the manner of the whole is chaste in the extreme. Notice particularly the semicircular panel at the top of the stairs.

The banqueting-room is without any exception the finest thing of its kind in Bath. At each end is an arched recess, with three similar recesses on the one side corresponding with two groups of three windows each and a fireplace on the other. Over the fireplace are the arms of Bath. The Corinthian order extends with its base to about half the height of the room, and supports an entablature which is continued all round, broken only at the recesses, the middle one of which on the inside is set back still further to contain the orchestra; above are circular discs at the two ends and oval ones at the side, facing the oval windows. A second cornice runs unbroken round the room above this, and here the cove rises up to a large flat ceiling, which is ornamented with three immense circles filled with enriched plaster-work, between which are two smaller ones serving as grilles to the ventilators. The raised ornaments on the fireplaces and doors are of wood covered with a coat of fine plaster, and this is the usual method adopted in this kind of work in Bath. The building was completed in 1777.

Passing down Bridge Street we come to the Pulteney Bridge, which was built about 1776 from designs by Robert Adam for his patron, William Pulteney, Earl of Bath, that he might have the more ready access to his Bathwick estate.

Beyond this the domestic work of Baldwin is principally seen. In a shop in Argyle Street there remains a good fireplace, carved with pendants and festoons, with musical emblems in the centre. The form of the grate, as well as the technique of its casting, are both highly artistic.

In 1788 Laura Place was commenced.

Great Pulteney Street, which was begun about 1792, was his finest work. It certainly has a very imposing effect, from its great length and width; and the old Sydney Hotel, afterwards Sydney College, at the end, adds considerably to the beauty of it.

The old Pump Room had been finished in 1706. It was much enlarged in 1751. Previous to 1780 Reveley had been commissioned to prepare plans, and work was commenced and carried to a considerable height at the west end. On the appointment of Baldwin as city surveyor in that year, however, the work was stopped, and he, in his official capacity, had to prepare plans. In 1788 a committee was formed to discuss them with him, together with the estimates, and work appears to have commenced; but difficulties arising between him and the Corporation, it was again suspended. In 1794 John Palmer gave new plans and elevations, and in 1779 the new Pump Room was finished under his direction. The two colonnades were certainly the work of Baldwin, and as the capital adjoining the basement of the Pump Room is worked out of the same stone as the rustication, it would appear that the whole of this front was at least designed and commenced by the same hand, whoever might have carried out the upper part.

The interior of the room is very lofty, and is treated quite simply with a Corinthian order supporting an entablature and cove. In length it is 85 feet including recesses, in width 46 feet, and in height 34 feet, or 8 feet less than that of the large assembly room. A statue of Beau Nash is at the further end and underneath a fine clock presented by Mr. Tompion.

In about 1790 Reveley, the architect referred to above, had built Camden Crescent, remarkable for the manner in which the rise of the ground is overcome in the design. The old print in Nattes's coloured views (1806) shows the portion of the crescent begun at the east end, and which was afterwards taken down because the houses between could not be completed on account of the landslip, those now in existence being build on the solid rock.

In 1789 an Act of Parliament had been obtained for the improvement of the older part of the city, and much was done within the next few years. A new street was built to connect Milsom Street with Stall Street, as formerly the back part of the Bear Inn premises served for this purpose. This was

Union Street; Cheap Street and Westgate Street were widened, and Bath Street was built, all under Baldwin.

The Ionic colonnade in the latter street forms a very interesting feature with the Cross Bath at the bottom, also erected from Baldwin's design. This building has some good detail upon it, the Corinthian capitals particularly being very finely worked. At the north end is a portico supported on four columns.

At this period a very large house was commenced at Grosvenor, intended originally for an inn, but which for a long time lay unfinished. It is faced with seven composite columns, and the shafts were to be adorned with three tiers of festoons, though the lowest has not been finished. The cornice is broken at each column. There is a simple Doric portico on the ground floor.

The oval medallions were intended probably to represent Earth, Air, Fire, Water, Spring and Summer. Of these, the eagle on the left represents Air, the lion Earth, and the whale on the right Water; the others are uncarved. The middle ones would have been for Spring and Summer. This building is now Grosvenor College.

There remains at 24 High Street, in the old Market Place, a front illustrative of the manner of building at the very close of the century. No doubt the Doric order was once to be seen on the ground floor, but like many more, it has been obliterated. The date—1800—is seen in the circular pediment at the top.

I cannot close my paper in a more fitting way than by exhibiting to you the excellent map prepared by Mr. T. Sturge Cotterell, called the Historic Map of Bath. It contains a great deal of interesting information as to the past, and shows the remarkable change which took place during the period which has been under our notice this evening.

Lantern views from photographs recently taken of the buildings and old maps and engravings illustrated the paper from preface to end.

Mr. M. Garbutt, who proposed a vote of thanks to Mr. Green, said there could only be one sentiment in the meeting, that of gratitude for the extremely valuable paper to which they had listened. The lecturer had accumulated a vast amount of information, and he had given it to them in a most interesting way, aided by the beautiful set of photographs thrown on the screen. The architecture of Bath was the outcome of an extraordinary opportunity for one man to develop his town—an opportunity uncommon in the history of England. Wood, with his masterful mind, made the most of his freedom, and in the uniformity of his designs gave a local character to the buildings which had no parallel. The introduction of such an effect would be impossible now, even supposing the architects had public favour. Bath was the proof that a really cultivated architect could speculate in building, and the result was certainly happier than the speculations of a number of individuals.

Mr. A. T. Bolton seconded the vote, and suggested that other provincial architects might be encouraged to write papers on the architectural history of their native towns. All over the country the old provincial towns were disappearing, and it would be well for students to possess some record of their beauties. A similar paper written on old Dublin houses would be of great value and interest. The speaker thought the greatest characteristic of Bath architecture was the smallness of scale. The Circus was an example, but in the Crescent the right Classical scale had been adopted, and this style of architecture certainly needed Classical dimension. Tied as Wood was in some of his work, he could not do proper justice to his style.

The vote of thanks was passed by acclamation, and Mr. Green briefly replied.

THE RESULTS OF SOME TESTS WITH FIRE-RESISTING MATERIALS.*

BY the kind permission of the executive of the British Fire Prevention Committee I am enabled to give you some account of the tests and experiments with fire-resisting materials conducted by them in the hope they may be of interest to those engaged in building operations and to those who take or have any interest in preventing the spread of fire.

The work of the committee, so far as it has been undertaken, may be divided under four heads:—

Firstly. Experimental tests with floors, commencing with simple forms of construction deemed to be fire-resisting only, and proceeding to more complex forms deemed to be fireproof.

Secondly. Experimental tests with fire-resisting partitions of various constructions.

Thirdly. Experimental tests with doors of various constructions, both of wood and iron, or a combination of both.

Fourthly. Experimental tests with protective coverings to openings and methods of glazing which in themselves form a protection from fire.

This last is a very important factor in dealing with fire prevention, as, however fire-resisting a building may be in itself, unless it can resist fire from the outside it is as liable to destruction as the most inflammable building.

You will see by the view now upon the screen that this building, although professing to be fireproof, was partially destroyed by reason of the fire from the adjoining building passing through the windows.

In commenting upon the different forms of construction and their behaviour under the fire tests to which they were submitted, I do not propose to mention any names for reasons that may be sufficiently obvious, but shall merely differentiate between the test initiated by the committee and those submitted for test by manufacturers; any further information is to be obtained in the official published reports.

For the information of those who are not familiar with the system and plant employed by the committee in conducting these tests, I will put upon the screen a plan and section of a block of huts or testing chambers in which the fire tests are undertaken. The chambers, as will be seen, are built of brick, the smaller ones are 10 feet square inside and the larger huts 10 feet by 22 feet 3 inches and are available for either floor, ceiling, door, or partition tests. The method of producing the heat is by a gas generator, and the gas is conducted to the several chambers by cast-iron pipes and the supply regulated by valves and dampers. The record of the temperatures attained in the chambers is by means of electrical pyrometers, similar to those used in the Royal Mint.

Starting with experimental tests with floors, the first to which I shall direct your notice is an ordinary floor with deal joists and floor, the soffit of which was protected by plaster, termed asbestic plaster. This was applied on ordinary wood lathing, and the thickness of the plaster after completion was about 1⅛ inch. On drying this reduced itself to about ⅞ of an inch, and during the process of drying cracks developed over the surface. Before the test these were stopped, and the appearance of the soffit as you now see it is due to this cause.

The testee decided to have a 45 minutes' test, 15 minutes at a temperature not exceeding 500 degs, then a gradually increasing temperature for the remaining 30 minutes up to 1,500 degs. The summary of effect is as follows:—No perceptible difference in the ceiling was observed during the progress of the test. The application of water caused no injury to the ceiling. No portion of the ceiling fell either during or after the test. When examined after the test, cracks had developed over the surface and some of the wood laths were charred, but none had ignited. This test may be considered satisfactory as the object was attained, viz. to render the floor fire-resisting for 45 minutes, which would, under ordinary circumstances, have allowed the occupants in the rooms over to have escaped.

The next test is of a similar nature. The floor was ordinary joists and boarding, but the protecting material to the soffit was slag wool 1¾ inch thick. This was secured with screws to the soffit of the joists, and a ⅞-inch match-boarded ceiling was placed under the slag wool. The testee decided to have a test of one hour's duration with a gradually increasing temperature to 1,800 degs.

The summary of effect was as follows:—At the conclusion of the test the flooring on top was, so far as could be seen, uninjured, and when the joists were examined they were sound. The boarded ceiling had, of course, disappeared, but the slag wool remained in position and had protected the floor. A good deal of heat was retained in the floor, and at one point, where water had not been applied, a small hole was burnt in the flooring some three hours after the test was concluded. This test may also be considered satisfactory, as it retarded the spread of the fire for at least an hour.

We now come to a test of an interesting nature as showing the fire-resisting qualities of simple baulks of timber laid side by side, any spaces between being filled with fireclay grout, the soffit not being protected in any way; the thickness of the baulks was 9 inches. This was the committee's own test, and it was decided to have an 80 minutes' test with a gradual temperature up to 2,000 degs. Fahr.

The result was that the under surface of the wood beams was charred to an average depth of about 2 inches, but beyond this no damage was done. The view shows the soffit of the floor after the test, and the following one the end of one of the baulks after removal. The test clearly demonstrates what fire resistance there is in such a floor, but it must be carefully borne in mind that no space must be left between the timbers that is unfilled by the grouting, otherwise the fire draws up through and spreads to the next floor.

Section 74 of the London Building Act provides that, in premises exceeding 1,000 square feet in area and used partly for purposes of trade and partly as a dwelling house, the part used for purposes of trade shall be separated from the part used as a dwelling house by floors and walls of fire-resisting materials. This does not of course imply that the floor is to be fireproof, but the floor is to be sufficiently fire-resisting to prevent the spread of fire at least for a reasonable time to give an opportunity for the inmates above to escape. And in the schedule of materials deemed to be fire-resisting concrete filled in between joists of floor is so deemed.

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* Read before the Society of Architects on April 25 by Mr. Ellis Marsland, hon. secretary, Society of Architects.

The committee thought that a test in this direction would be of considerable interest and yield some useful information. Accordingly they made preparations for the simplest interpretation of the section and arranged a test as shown in the view. With 7 by 2 joists, ⅞-inch flooring, coke breeze and Portland cement concrete, 5 to 1, filled in between the joists to a depth of 5 inches, and kept in position by 1 by ¾-inch fillets nailed to the sides of joists 2 inches from the bottom, a ceiling was nailed on to the soffit formed of ⅝-inch match-boarding. The time decided for the test was 75 minutes, commencing with a temperature of 500 degs. and increasing to not more than 2,300 degs. The floor also was to be loaded with 100 lbs. per square foot distributed. The result of the test far exceeded the committee's expectations, it was not till after 82 minutes the floor collapsed.

The summary of effect is as follows:—In 15 minutes all the boarding to the soffit was consumed; in 54 minutes flame came through the floor between the last joist and the wall.

I should like to point out here what an important part the 1 by ¾ fillets played in the construction of the floor in preventing the fire getting through, and it was in consequence of the fillets being omitted on the outer side of the two end joists that the flame came through there, and these two joists were the most damaged.

The concrete between the two east joists fell out in 74 minutes, meanwhile the fire had been gradually eating its way up the other joists some 2 to 2½ inches; they being thus reduced from 7 inches to 5 inches or 4½ inches could no longer sustain the weight of 100 lbs. per square foot, and the floor and load collapsed in 82 minutes. This was a very severe test for so light a floor, and I think you will admit that it stood it bravely. The view shows the remains. The floor boards are not burnt, but only blackened by the smoke.

A test of a somewhat similar character to the one just mentioned was instituted to discover the fire-resisting qualities of different descriptions of concrete.

The floor now before us was constructed of 3 by 9 deal joists spaced 16½ inches centre to centre, which gave seven bays. Two of these bays were filled in to the full depth of the joists with coke breeze and cement concrete, 6 to 1. The next two bays were filled in with pit ballast and cement concrete, 6 to 1, and the remaining three bays were filled in with concrete composed of pit ballast three parts, coke breeze three parts, and cement one part. The concrete was supported between the joists by 1½-inch by ⅞-inch fillets. The soffit of the ceiling was plastered render float and set, and ⅞-inch flooring was nailed on top of the joists to complete the floor.

It was decided to test this floor for one hour and a half to a gradually increased temperature up to 2,500 degs. Fahr., and then to apply a stream of water for 4 minutes.

The summary of the test was that after a few minutes the plaster of the ceiling began to fall, whereupon the lower edges of the joists became ignited and gradually burned upwards.

At the end of the period the whole soffit of the floor was seen to be fully incandescent, particularly that in the coke breeze and cement bays. On the application of water the soffit of the ballast and cement concrete and the ballast, breeze and cement concrete immediately disintegrated, and about 3 inches in depth of it fell. The coke breeze and cement alone was not affected. The floor remained in position at the conclusion of the test, but appeared seriously weakened and deflected.

It is to be regretted that it did not remain in position sufficiently long to be photographed, but after a test of this description a good deal of latent heat remains in the materials, and the joists being of combustible material continued to smoulder, and the result was the collapse of the floor five hours after the test. On examining the remains the joists were found to be burnt through from 2 to 6 inches deep, and tapering to a further depth at the ends. The boarding was found to be slightly charred on the underside and at the joists, but otherwise was sound.

It could not be said the fire had passed through the floor, although smoke came through, and I think the floor may be considered a fire stop, although the weight of the concrete caused the collapse of the floor, and might constitute a source of danger on that account.

The behaviour of the ballast concrete shows it an undesirable material for fire resistance, while coke breeze has many advantages. I might add here that from my observation of the tests conducted by the committee it is the more porous and light of the incombustible materials that are the most fire-resisting.

The experience gained by the last two tests paved the way to the next; both the previous tests had shown that if the soffit of the joists had had further protection the fire resistance of the floor would have been greater, consequently a test was arranged as shown, with an expanded metal ceiling suspended 2 inches below the bottom of the 7 by 2 wooden joists, which formed a centring for the concrete as well as a key for the plaster. The construction may be gathered from the slide, and will need no further description beyond that the concrete below the joists was of dry ashes and Portland cement, and that between the joists was composed of coke breeze three parts, dry ashes two parts, and Portland cement one part.

The test was arranged for 2 hours, which is the longest time yet given for a floor formed partly of combustible material. The temperature was not to exceed 2,300 degs. Fahr., and to be followed by a stream of water for 2 minutes. The floor also was to be loaded with 100 lbs. per foot distributed.

The summary of effect is very short:—In 28 minutes plaster began to fall in patches from the ceiling, and continued to fall at intervals till the end of the test, when water was applied and further plaster was washed away. No other effect of the fire was noticeable, and at the conclusion of the test the floor was intact and carried its load. This floor did not subsequently collapse, although it smouldered all night, and I am enabled to show you its condition the next day from the underside and from the top. It was found that all the joists had been more or less damaged by the fire smouldering all night; portions of them were quite consumed, leaving the matrix only in the concrete. The least damaged of the nine joists forming the floor was the centre one, which was intact but for a piece about 12 inches long and 5 inches deep, which was consumed about 15 inches distant from the south end.

This irregular consumption of the joists I am inclined to think was due to the difficulty of so filling in the concrete on the soffit of the joists as to form a complete protection; the vertical strips of expanded metal which carried the horizontal portion conducted the heat up the joists, and appeared a source of weakness so far as the fire resistance was concerned.

The next test, which was submitted by a manufacturer, deals with a floor supported by 9 by 3 wooden joists with a terra-cotta wired lath suspended ceiling, and an air-space between the ceiling, and the concrete filling between the joists. The construction can best be gathered from the slide. The lathing was spread over the top of the joists, and depressed in the centre to the shape of an inverted arch; upon this the concrete was placed to a depth of 7 inches in the centre, which, when levelled, brought it 2 inches thick over the top of the joists. The concrete was of Portland cement and washed sand, in the proportion of one yard of sand to two bags of cement. The suspended ceiling was formed of terra-cotta wired lathing secured to iron rods fixed to the soffit of joists with iron hooks. Ordinary 3-coat work was applied to the lathing, but a proportion of plaster of Paris was incorporated with the material. The thickness of the plastering was 1½ inch.

The test was arranged for one hour and a quarter, the temperature was not to exceed 2,000 degs. Fahr., and the floor was to be loaded with 56 lbs. per foot distributed.

The summary of the effect was, that a considerable portion of the plaster ceiling fell during the test, some of the lathing being bare before the test closed. The floor cracked at each side to the extent of ½ inch, and dropped ¼ inch. When water was applied, smoke, steam and sparks came through the cracks in the top of the floor. One of the joists carrying the ceiling was entirely destroyed, two partially so, and one though discoloured was practically sound. This floor did not collapse, but its supports were practically destroyed; it trusted for its fire resistance to the suspended ceiling on the terra-cotta wired lathing and air-space, but after the ceiling was pierced the heat had full play around three sides of the deal joists, and so brought about its ruin. A floor of similar construction but with iron supports will be mentioned later.

We now come to floors having pretentions to be fireproof, *i.e.* the constructional parts of the floor are of non-combustible material, and the committee started with a simple iron and concrete floor, the soffits of the iron joists forming the floor being exposed. The committee were somewhat criticised for instituting this test as being a useless one, the result of which was already known. But I think the committee were perfectly right in having it. Firstly, because it is a very common form of fireproof floor, and, secondly, it gave the committee data from which to start in showing by comparison the advantage to be derived in protecting or encasing the ironwork. The floor, as you will see, is constructed of 5 by 4½ steel joists placed 2 feet 6 inches apart, and filled in with coke breeze and Portland cement concrete 5 to 1. It was loaded with 168 lbs. per foot distributed. It was proposed to test this floor for 2¼ hours up to a temperature of 2,300 degs. Fahr., but after 1 hour and 25 minutes, and at a temperature of 1,650 degs.

the bulk of the concrete in the two outer bays collapsed owing to the deflection of the steel joists. The floor began to deflect after 20 minutes at a temperature of 1,200 degs., and a maximum deflection of 10½ inches was recorded in one of the joists. The coke breeze concrete was but little deteriorated.

The disadvantage of filling in concrete between joists is in setting up and striking the centring and the attendant obstruction to the progress of the works by the supports.

The committee instituted the following test in which corrugated iron filled in between the iron joists was the centring employed and the coke breeze and cement concrete, 5 to 1, filled in on top.

The soffit of the joists and corrugated iron centring was protected by 2 by 3 deal ceiling joists suspended from the joists, and wire netting, ½-inch mesh, was used as lathing, and a plaster ceiling, 3-coat work, applied, inch floor boards were nailed into the breeze concrete on top, the floor and ceiling having a total thickness of about 12 inches. The floor was loaded with 168 lbs. per square foot distributed. The test was to last 1¼ hour, and the temperature 2,000 degs. Fahr. In half an hour the ceiling began to fall, and in one hour the ceiling and ceiling joists had all fallen. At the conclusion of the test the soffit of the iron joists and corrugated iron centring were observed to be red-hot, and the joists had deflected about 2¾ inches, but on cooling returned to within 1 inch of level. The fire did not pass through the floor, but perhaps the test was hardly sufficiently long to enable a comparison with the former floor to be made, but certainly the deflection of the joists was not so great, and the floor would have been serviceable without reconstruction, which the former floor would have not.

The next floor is one in which expanded metal forms a centring as well as lathing. The construction of the floor, as will be seen by the slide, is by iron joists 4 feet 9½ inches apart, on the top of which the expanded metal is stretched and 3 inches of furnace ash and Portland cement concrete laid and finished on top, with ½ inch of cement and sand. The joists are protected with a suspended ceiling, as shown, of expanded metal and ordinary plastering applied. The space between the floor and ceiling was ventilated by means of holes in the walls of the chamber. The floor was loaded 140 lbs. per foot distributed. The test was to last 1 hour and 15 minutes, and the maximum temperature was to be 2,000 degs. Fahr. The result was that during this period the fire did not pass through the floor. The plaster ceiling remained intact until the application of water, when some of it was washed away. There was a slight deflection of the floor and ceiling. It is to be observed that considerable advantage was gained by the space for ventilation, which in practice is not always obtainable.

We now come to the floor to which I before alluded, and it is on the same principle, but steel joists are substituted for the wooden ones.

Terra-cotta wired lathing is used both for the centring and ceiling. The slide will explain the construction in detail. The test was to be of 1¼-hour duration and the temperature was not to exceed 2,000 degs., and the load 1½ cwt. per square foot distributed. The result was the fire did not pass through the floor, but on water being applied some of the plastering was washed from the lathing. So little was the floor damaged that the testee decided to replaster the ceiling, and the test was renewed at a subsequent date, when practically the same results were observed.

The last floor test to which I invite your attention is one of 2½ hours. The floor was constructed of iron and concrete in which all the ironwork was embedded. The construction is detailed in the slide. The steel joists are spaced 6 feet apart, over which are placed stirrups to receive the bridging bars spaced 20 inches apart. A slab of concrete is suspended to the soffit of girder, and a wood centring is necessary for filling in the concrete which is composed of clinkers broken small, sand and Portland cement in the proportion of four parts clinkers, two parts sand and one part Portland cement. The concrete was 4 inches thick, a further depth of coke breeze and Portland cement concrete, 2 inches thick, was filled in on top of this between the floor strips, the soffit of the floor and the sides and soffits of the steel joists were rendered in plaster three coats.

The summary of this test is thus recorded:—The plaster on the underside of the ceiling and around the beams cracked slightly before the application of water. On the application of water some of the plaster fell off the soffit of the ceiling and beams. The concrete forming the floor was not damaged. That enclosing the beams was slightly damaged and cracked. The fire did not pass through the floor. The wood strips bedded in upper surface of the concrete were uninjured. The test of this floor was a severe one, but not too severe for a fire-proof floor, as any floor professing these qualifications should be at least able to stand a 2½ hours' test, otherwise they could only rank as fire-resisting. It should also be able, after serving as a fire stop, to be repaired and made good without reconstruction.

(*To be concluded.*)

CHRIST'S HOSPITAL.

THE following announcement of the Commons and Footpaths Preservation Society, Kyrle Society, Metropolitan Public Gardens Association, National Trust for Places of Historic Interest or Natural Beauty, and Society for the Protection of Ancient Buildings was published last week in order to bring to the notice of old Blues the danger which threatens the ancient home of the hospital:—A Bill is pending in Parliament which, if passed, will authorise the governors, with the consent of the Charity Commissioners, to sell the site; and the avowed object is to clear the whole area now occupied by the hospital and to cover it with streets, shops, showrooms and warehouses.

The Charity Commissioners some two years ago sanctioned a scheme which contemplated the removal of the principal school of the foundation from the centre of London, but there was no provision in the scheme for disposing of the hospital site and buildings; and the governors by their present application to Parliament admit that they cannot make a good title to the land for building purposes without the authority of an Act.

The difficulties which hamper the free treatment of the site appear to be that parts of the site are leasehold and that a large part has at some period been used for interments. Parliament has declared that it is unlawful to build on a disused burial-ground, and it is sought by the present Bill to override this enactment. The garden and cloisters are well known to be old burial-grounds, as memorial tablets testify; indeed burials took place so recently as fifty years ago.

It is averred that the sale of the site is necessary to provide funds for the conduct of the school at Horsham.

It is submitted that no sale for clearing and building should be sanctioned save in the last resort. At present it does not appear that the other resources of the foundation have been exhausted or that any attempt has been made to dispose of the buildings to any public bodies for adaptation to public purposes; indeed a proposal of the neighbouring foundation of St. Bartholomew's Hospital to acquire part of the site is resisted by the governors. The buildings offer many advantages for purposes of adaptation, the great hall forming a nucleus round which other buildings would naturally and appropriately grow.

The scheme of the Charity Commissioners contemplates the establishment of day schools, and the present buildings are in a central position admirably situated for the purposes of such schools. The governors will also require offices in London for their weekly meetings, to hold the necessary entrance examinations and for the daily transaction of business. Yet they propose to allow the beautiful court-room, probably designed by Wren, in which they at present meet, to be pulled down and to take new offices elsewhere. The ancient cloisters and jifs, the latter containing the time-honoured monument bearing the inscription, "Here lies a Benefactor, Let no one move his bones," the old fourth form room and writing school and the large dining-hall are to be swept away; the hall play the garden and the ditch are to be covered with blocks of commercial buildings. One idea only seems to have inspired the Bill, that of wringing the last penny out of the ground—ground which has been set apart for the uses of piety and learning since the thirteenth century.

There are many objections to the Bill from the point of view of those who have the welfare of London at heart. But it is thought that old boys of the foundation will feel strongly that the old school round which so many associations cling should not be swept off the face of the earth, leaving no trace behind save a few fragments torn from their roots and placed in uncongenial surroundings at Horsham.

With the view of testing the feeling of old Blues on this subject, papers of protest are lying at the offices of the societies, to which the signatures of those interested are invited.

The following statement on behalf of the governors of Christ's Hospital has been given in reply:—

Various societies having combined with the object of hindering, if not preventing, the realisation of the site of Christ's Hospital in Newgate Street, and a communication from those societies having appeared in the daily Press, which is not only misleading in its character, but calculated to prejudice the public mind against the action of the governors of the hospital, the governors deem it right that the following statement of the facts should be published.

In the year 1890, after twenty years of controversy and contest, and after a fruitless appeal of the governors to the Judicial Committee of the Privy Council, the Charity Commissioners, against the wishes of the governors, succeeded in passing through Parliament a scheme for the future administration of the ancient foundation of Christ's Hospital.

The scheme directed the provision not only of new boarding schools in place of those existing, but also of science and day schools for 1,000 scholars within three miles of the Royal Exchange.

The scheme further prohibited the use of the school buildings on the Newgate Street site for any period longer than was necessary for the provision of the new buildings, leaving it to the new governing body of the school (the Council of Almoners) to find the money required, acting, of course, subject to the approval of the Charity Commissioners. But for certain legal and technical difficulties the realisation of the site could have been accomplished without reference to Parliament.

Doubtful from the first of the financial possibility of carrying out the scheme, and hesitating to commit themselves to the great cost involved in providing new boarding schools in the country, the governors allowed a few years to elapse before commencing building. When it became imperative that a move should be made they acquired a site at Horsham, in Sussex, and proceeded to erect a new boarding school for boys. The cost involved in this operation, though cut down in every possible way, amounts to no less than 550,000*l.* The building approaches completion, and will be ready to receive the boys in the spring of next year.

The governors were advised, and the Charity Commissioners concurred in the advice, that the realisation of the City site should be postponed as long as possible, in the belief that a better sale would result.

That this site has from the first been regarded as the source from whence the money was to be found to carry out the scheme is common knowledge. The valuable character of the site was, indeed, the main justification for the compulsory removal of the school from London.

The argument that such removal would present the opportunity of extending the educational importance and usefulness of the charity was one which even the old governing body found it difficult to contend against.

The Charity Commissioners and the Schools Inquiry Commissioners urged it; and the Special Inquiry Commission, which was appointed in 1877 by Lord Cross, then Secretary of State, to inquire into this hospital, expressed the opinion that the sum which might be realised by the sale of the site would more than provide for the removal, adding that, while they felt "a great unwillingness to aid in destroying the ancient traditions and venerable memories of the place, these associations might be too dearly purchased."

There was and is no alternative for the governors, forced as they have been to establish new schools elsewhere, but to take the step of realising the site.

The time for this has now come, and the answer to objectors who would hinder or stop the sale is that they should have joined with the old governing body in resisting the scheme when that scheme was before Parliament eleven years ago, and that it is too late now to talk of preserving the old school buildings unless someone, be it the London County Council or other public body, is prepared to find the money now called for. Offers have been received by the governors, the highest of which it is calculated would about enable them to carry out the provisions of the scheme both as to the new boarding schools and the science and day schools.

Of course if the governors should be relieved by Parliament from the obligation to provide these latter schools, then the financial requirements would be correspondingly abated; but the governors being bound by Parliament to provide and maintain these schools, are equally bound to use their best endeavours to realise the site to the best possible advantage.

The legal difficulties necessitating the present application to Parliament are stated in the letter to the daily Press referred to.

The only burial-ground on the site is one on which half of the great hall now stands. This burial-ground comes within the exceptions from the law which prohibits buildings, having been dealt with by an Act passed in 1795; some authority is, however, required for removal of human remains. The only other portion of the site which, so far as is known, has ever been in any sense set apart for purposes of burial consists of two vaults in the quadrangle, in which children of the hospital and officers were formerly buried, and which were closed by order of the Home Secretary in 1886.

The governors are the last persons to deny that historic interest attaches to the site of their institution, and heartily join in the common regret that the removal of the school should involve also the removal of the buildings hitherto used for school purposes. It is a mistake, however, to suppose that the buildings on the site, interesting as they may be, are historical in the ordinary acceptation of that term. The principal of them emanate from no earlier date than that of George IV.

The great hall, so often confused with the earlier building which the present one displaced in 1825, was built from the plans of the hospital's architect, the late Mr. John Shaw. And as to the court-room, to which the Society for the Protection of Ancient Buildings refers, and which the governors themselves would naturally much like to preserve if it were possible, it is the room itself which is attractive, as the exterior can hardly be described as beautiful. The building was erected in 1680 and enlarged in 1788.

The only really ancient piece of building on the site consists of some thirteenth-century arches, rapidly crumbling to decay, which were retained in the reconstruction in 1682 of one of the dormitories over the south cloister.

These arches probably formed part, and the only remaining part, of the Grey Friars' Monastery, and will be carefully taken care of with a view to removal to some suitable spot, as will also any other antiquarian and interesting objects which may come to light during the removal.

As some of the opponents represent open spaces associations, it may be well to state that plans of a century ago show that nearly all the ground now used as playground was formerly covered with buildings, and the only portion which has not been built upon is the quadrangle and part of the treasurer's garden.

When the Post Office Sites Act of 1885 was before a select committee of the House of Commons it was suggested that the Government should acquire the whole of the site of Christ's Hospital, but the idea was negatived, partly on account of the time which would have to elapse before the site could be handed over, and partly on the ground of the expense involved, and the Post Office authorities decided to acquire instead other property in the immediate neighbourhood. There is little doubt that if the Government had acquired the whole site nothing would have been heard of the objections now raised, and the Post Office authorities would have placed huge buildings on the site. If the societies interested, instead of circulating papers of protest, would find some public body to purchase the site and buildings at their full market value, for the sake of preservation, they would be serving a more useful purpose, and one which might lead to some practical result.

The ratepayers, after all, are concerned in the matter; it is they who nowadays have to find the means for technical and secondary education, and the site of Christ's Hospital is an endowment applicable and now dedicated to this purpose. The general public have, therefore, a direct interest in the sale of the site of Christ's Hospital producing the largest sum possible.

GENERAL.

Mr. R. W. Macbeth, A.R.A., has been elected a member of the Royal Society of Painters in Water-Colours.

The Royal Institute of Painters in Water-Colours, Piccadilly, have elected the following members:—Mr. John Hassall, Mr. Horatio Walker, Mr. Cecil J. Hobson, Mr. George C. Haité and Mr. Tom Browne.

Mr. Delissa Joseph prepared the designs for the Finsbury Park Synagogue, the foundation-stone of which was laid last Wednesday.

The French Minister of Public Instruction has formed a commission to inquire into the creation of local schools of architecture.

Archdeacon Madden announced, in his visitation charge at Warrington last Monday, the receipt of several donations of 10,000*l.* each, and others from 1,000*l.* to 5,000*l.*, for the building of a cathedral in Liverpool.

The Art Gallery Committee of the Manchester Corporation have resolved to place on record its appreciation of the interest in the higher pleasures of the people of Manchester, evinced by the bequest to the City Art Gallery by the late Sir William Cunliffe Brooks, Bart., of Peter Graham's picture, *A Spate in the Highlands.*

A Meeting of the Edinburgh Architectural Society was held last week, when Mr. Harold O. Tarbolton, the honorary president, delivered an address, and afterwards presented the prizes gained in the design competition, as follows:—Hon. president's prize of 10*l.*, Mr. George Wittel; president's prize of 3*l.* 3*s*, Mr. Wellesley Bailey; vice-president's prize of 2*l.* 2*s.*, Mr. F. C. Mears.

The City Architect of Hull has been instructed to prepare plans for a new corn exchange, to be erected over the proposed covered-in market in North Church side.

The Durham and Northumberland Archæological and Architectural Society unanimously re-elected the Rev. Dr. Greenwell as president at their last meeting.

The Competitors for the Prix de Rome in sculpture comprise no less than six pupils of M. Barrias. They are MM. Bouchard, Guillour, Blanconnier, Terroir, Larrivé and Billot. All the other ateliers furnish only four competitors between them.

The London County Council have agreed to pay 16,800*l.*, one-half of the net cost of the widening to 50 feet of Blomfield Street, City, between East Street and Eldon Street, proposed to be undertaken by the City Corporation.

An Engraving by J. R. Smith, after the picture of *Mrs. Carnac* by Sir Joshua Reynolds, was sold for 1,160 guineas on Wednesday.

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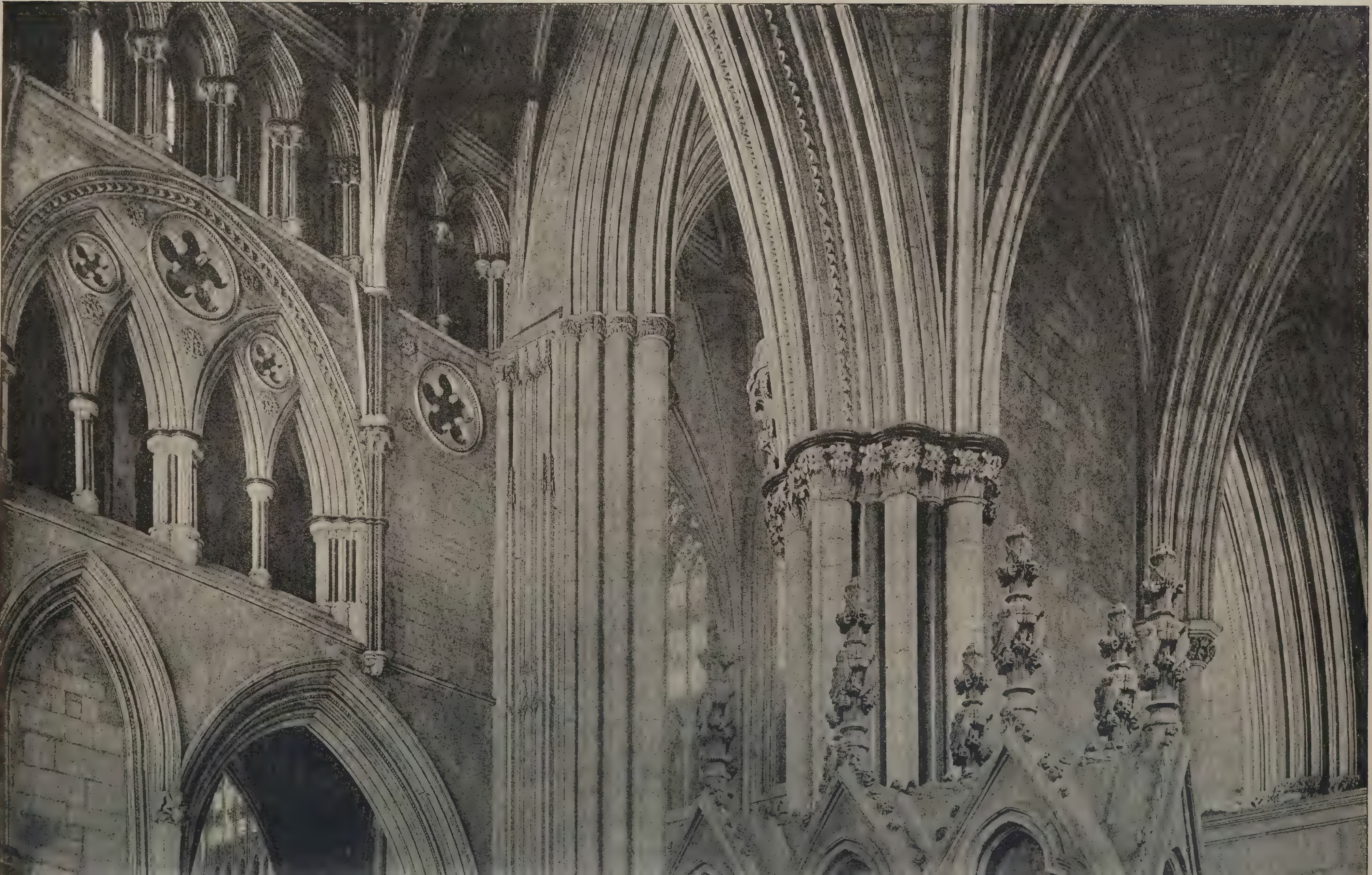

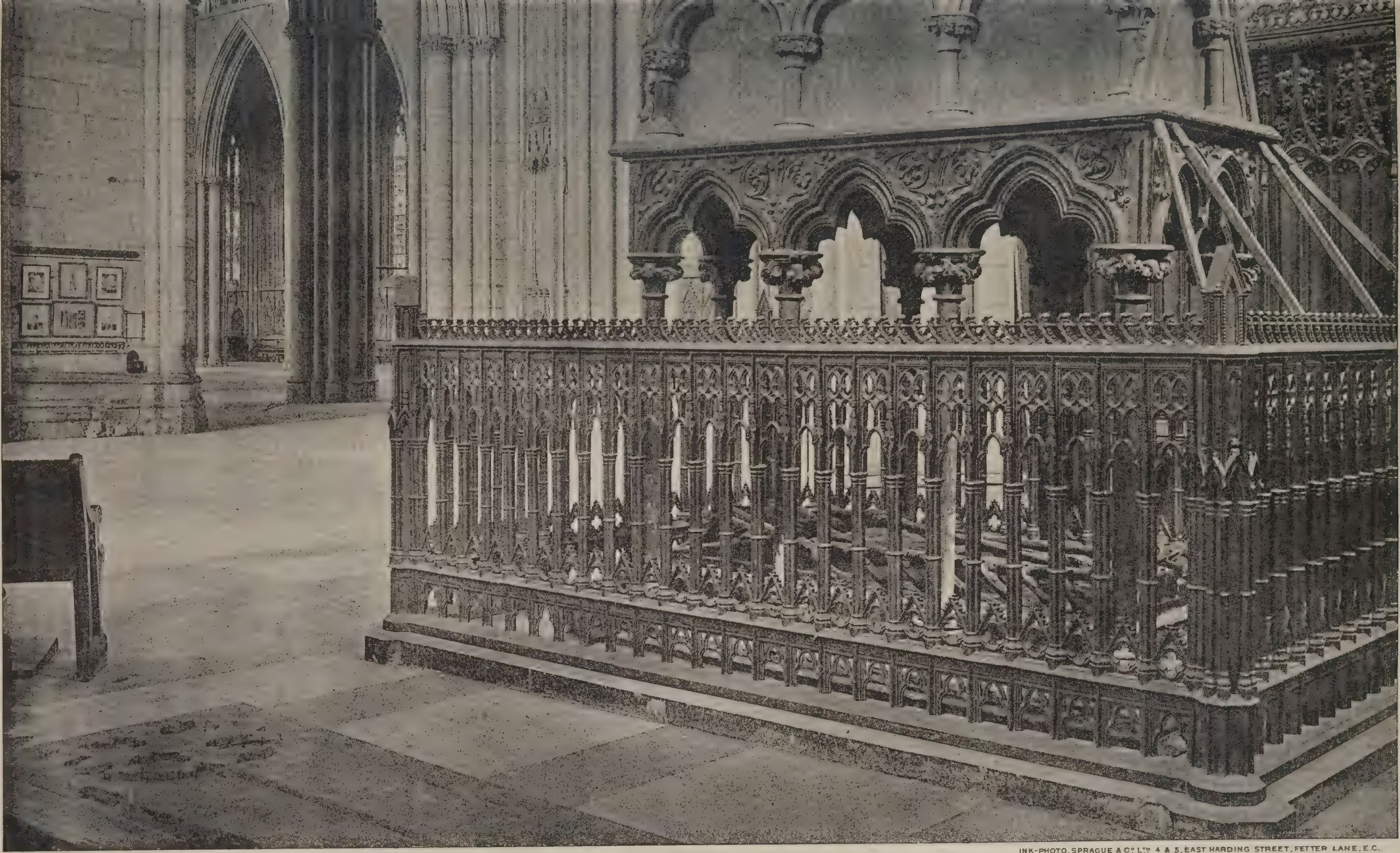

INK-PHOTO, SPRAGUE & Cº LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

Cathedral Series, No. 332.—York Minster: Cross View to Nave from South Transept.

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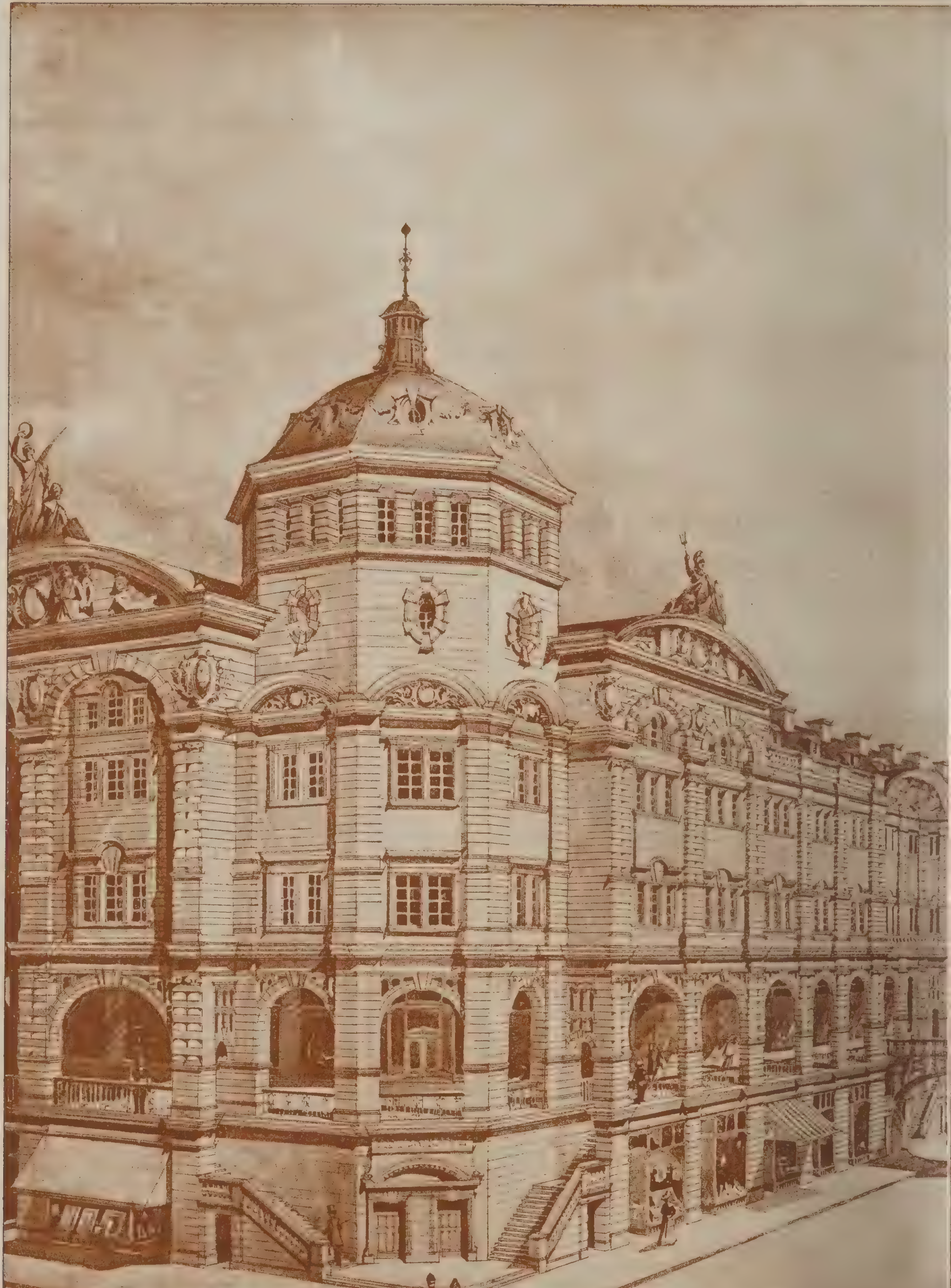
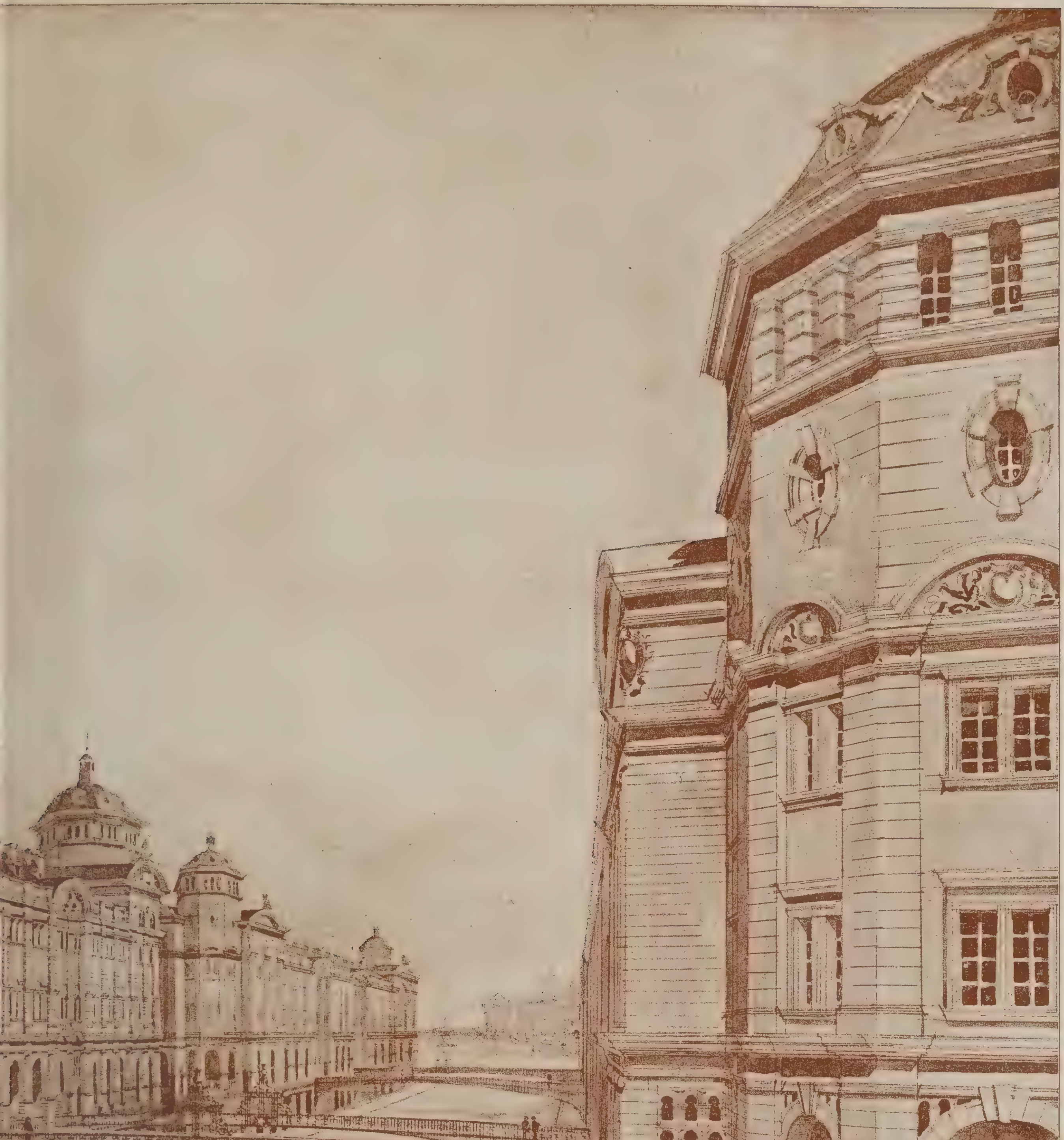


DESIGN FOR HOLBORN

BY ALFR



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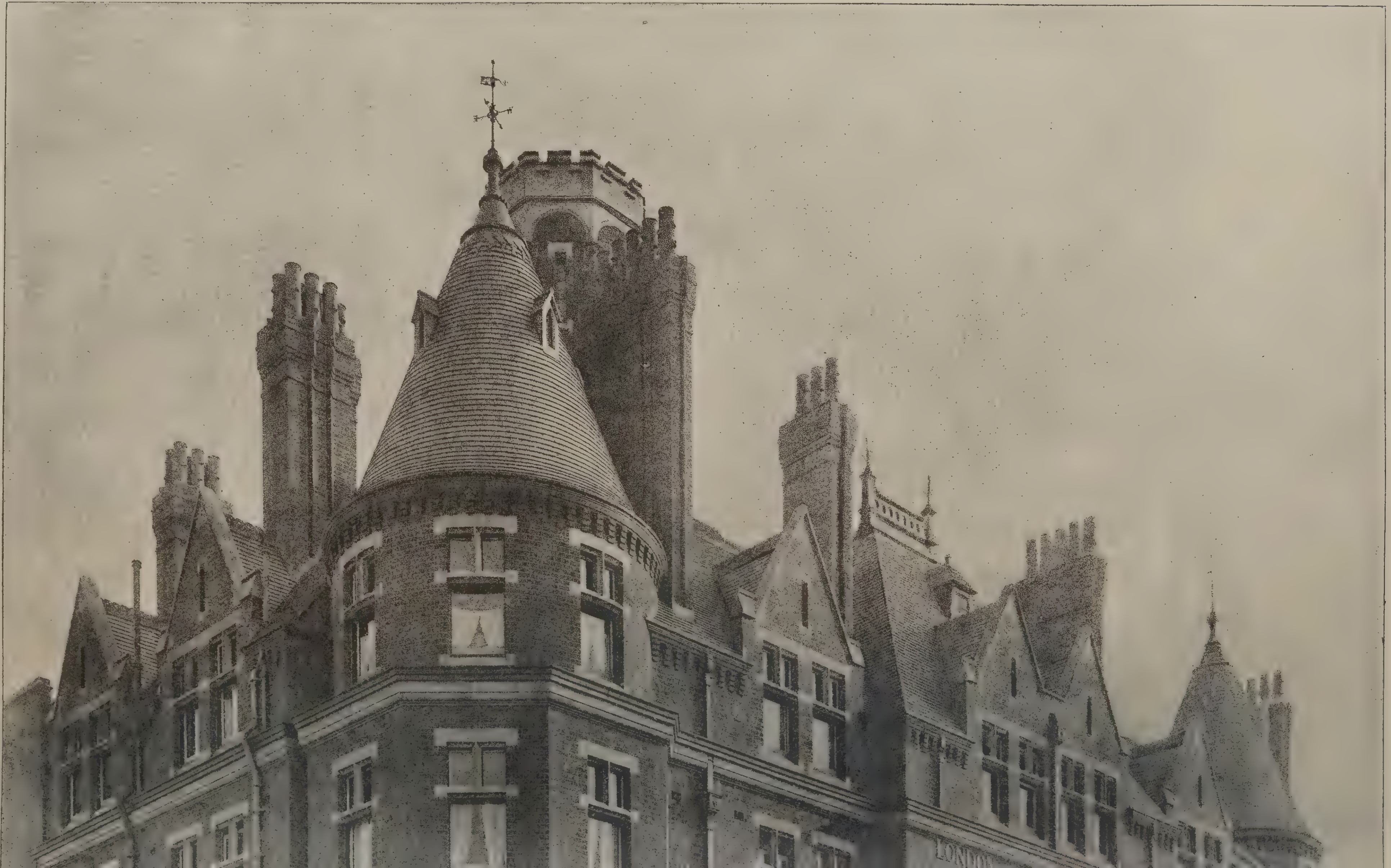

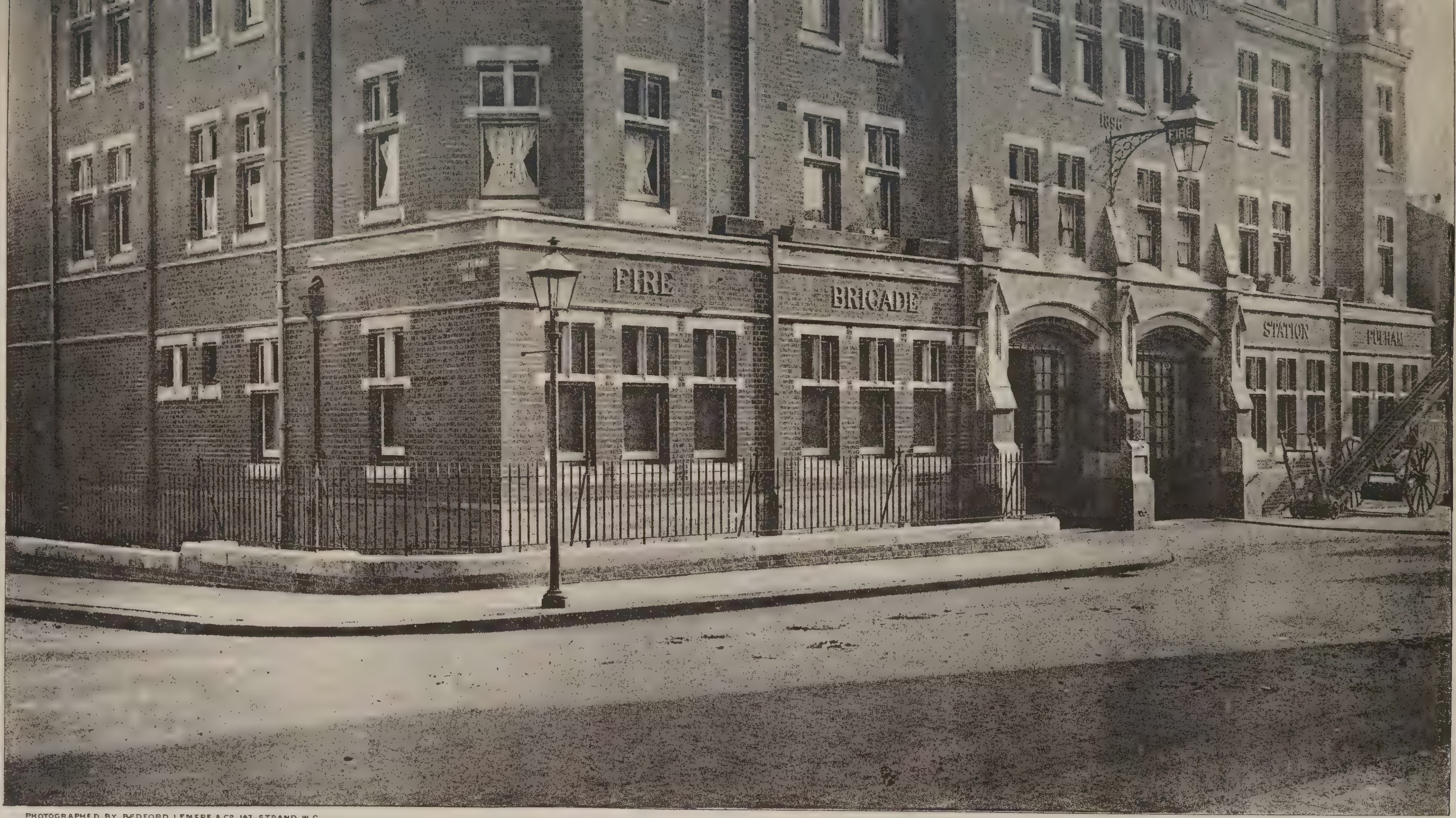

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Fire Brigade Station, Fulham Road.

THOMAS BLASHILL, Architect

LIBRARY
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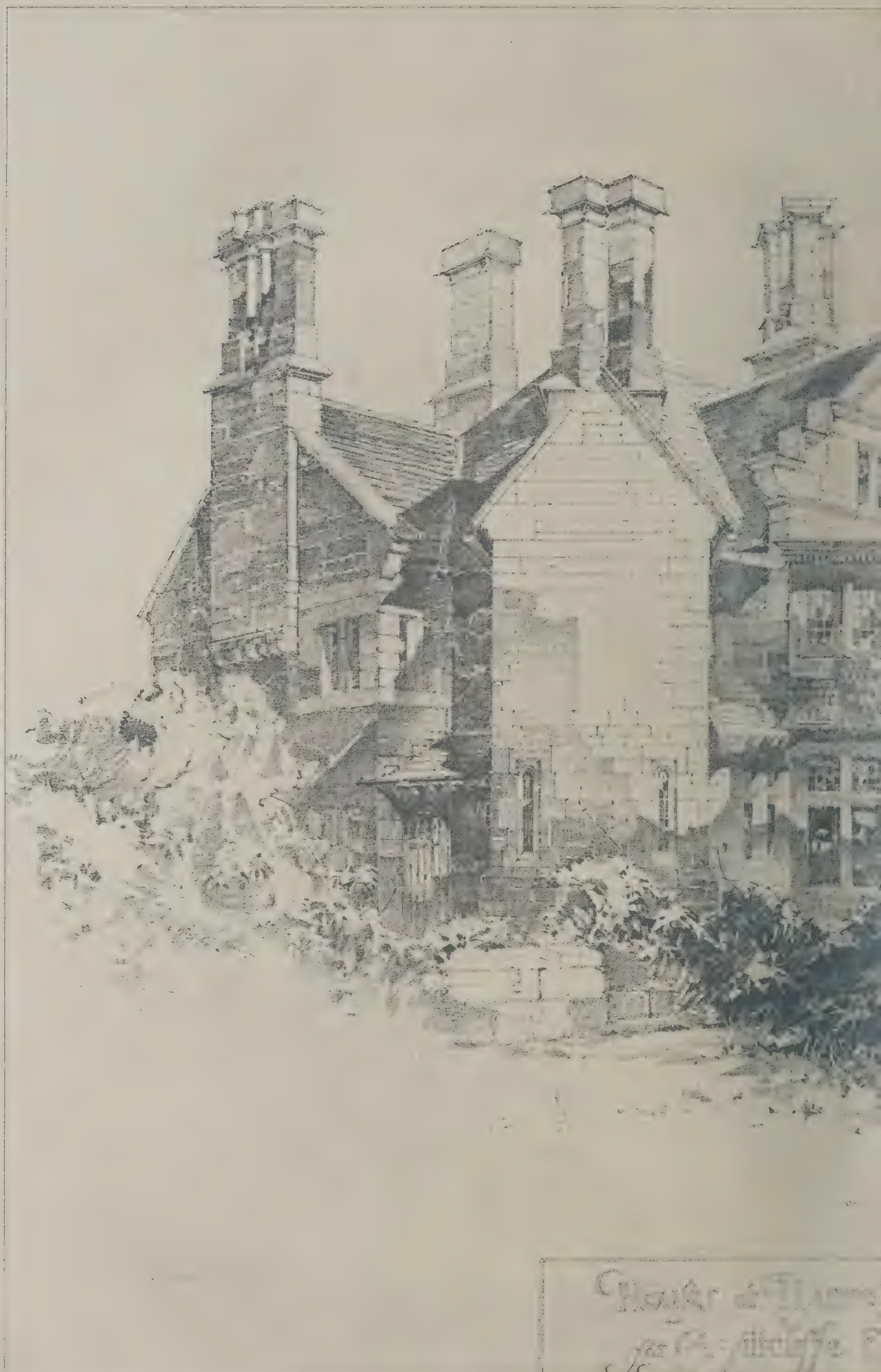
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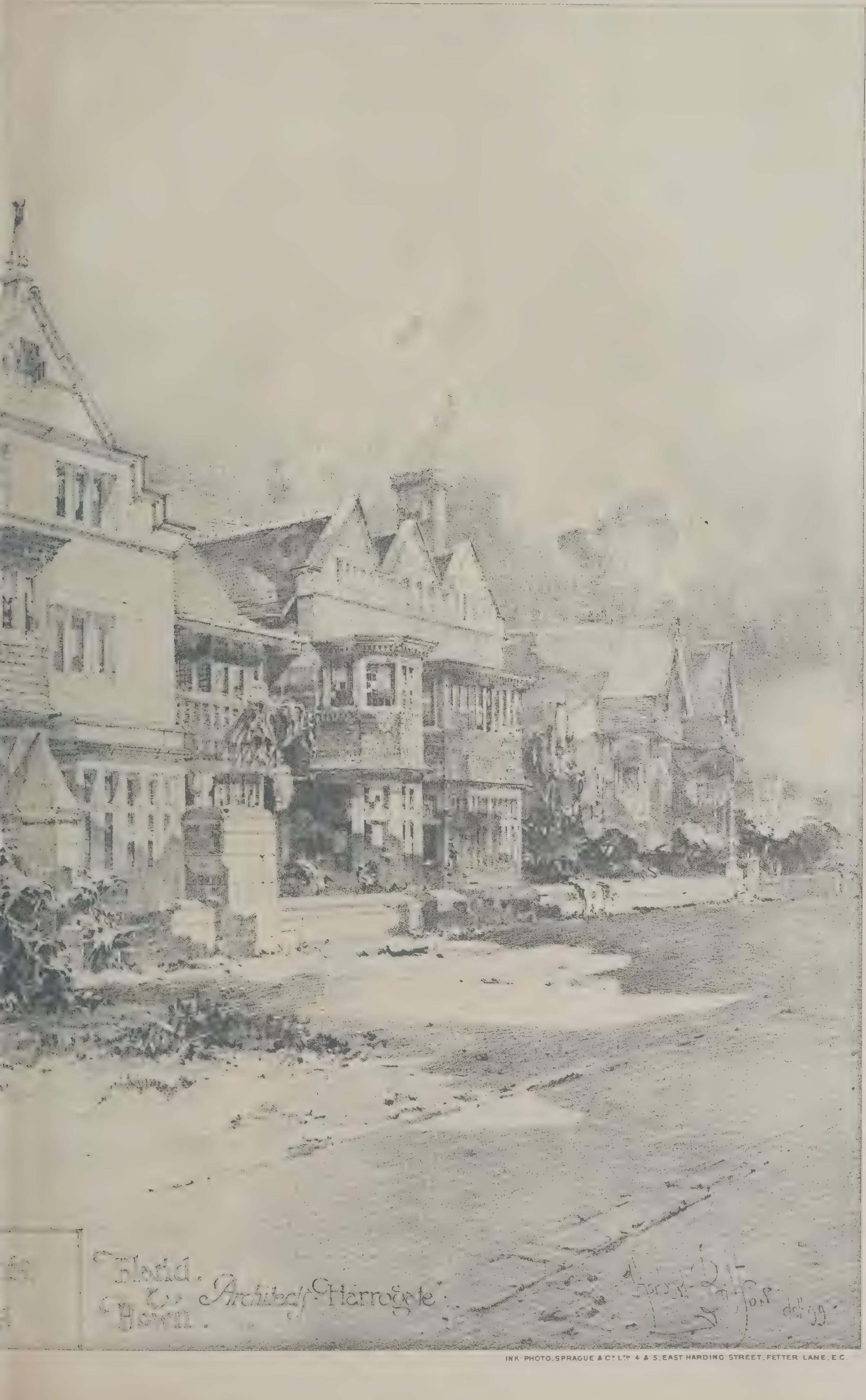

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The Architect.

THE WEEK.

THE interesting paper by Mr. PERCY FITZGERALD, M.A., F.S.A., will be found on another page, and it demands serious attention, for the author appears to have some of the commercial interests of England against him. When we read on suburban playbills about the co-operation of the local tradesmen whose furniture, pottery, pictures and other necessities of the modern drama are pointed out, it becomes evident that in the minds of those who get up plays the old-fashioned dramatic interest no longer exists. A similar state of things to what occurs in the decoration of buildings is apparent. Call in half a dozen eminent artists to adorn the walls of a cathedral, and each will be found to be thinking more of his own particular share than of the general effect. Unity is not to be attained under such conditions. On the stage the actor is subdued by surroundings which he is made to feel are of much more importance than himself. There is, of course, an opposite side to the case. Old playgoers can recall many absurdities which arise when only stock scenery and stock costumes are available. But it is astonishing how easily the mind condones defects of the kind when the acting is good. The actor's art, as we have said, cannot excite much interest when we see announcements about favourite actresses making arrangements to insure the success of a play by wearing all the jewels they acquired by marriage or purchase. In Mr. PERCY FITZGERALD's protest many playgoers will be prepared to join, although they are aware that at the present time a visit to a theatre is supposed to be ordinary sight seeing, and, as a theatrical critic of one of the daily papers expresses it, some circus or other and Westminster Abbey are seen under circumstances which are exactly the same.

THE contest for the acquisition of the site of Christ's Hospital is likely to excite much interest in Parliamentary circles during the present session. In the strategy which has to be employed at Westminster it is found to be advantageous to gain the first victory, although the matter at issue may be of comparatively minor importance. The Governors of St. Bartholomew's Hospital therefore promoted a Bill for the compulsory purchase of part of Christ's Hospital between King Edward Street and Giltspur Street, in order to allow of an extension of that beneficent institution. The almoners of Christ's Hospital considered the tactics to be unwarranted by precedent. But that was hardly correct. The almoners said that for the 5½ acres occupied by Christ's Hospital they were offered 720,000*l.*, and with that sum as a basis they were willing to carry on negotiations with the authorities for the sale of the part required. The Governors of St. Bartholomew's prefer arbitration as a principle. On Tuesday, to the surprise of both parties, the committee of the House of Lords declared the preamble to be proved. The meaning of the decision will be that, contrary to the opinion of surveyors who represented Christ's Hospital, recourse must be had to arbitration.

THE Birmingham Museum and School of Art committee say that they find it very difficult to obtain teachers trained in practical crafts who were also competent teachers of design. In fact, they have had to send some of the younger staff to London to study various crafts. This is a very serious announcement, and shows in a striking way the need for reformation in the system of technical education. That it is a fault of the system is proved by the fact that the experiment of taking matters into their own hands and sending future instructors to London has proved a distinct success, and although expense was incurred the committee were convinced that they would be amply repaid. The demand for instructed students is so great there is some difficulty in meeting it. When we learn that the engraver of the British Mint was a student of the branch school for jewellery, and the engraver of the Mint of the United States was another, it is no wonder the children of Birmingham seek admission as soon as they are eligible. To the jewellery and kindred trades one school has furnished 3,100 assistants. The desire of the people of Birmingham to make the most of the opportunities is suggested by one simple fact. The catalogue of the pictures is a useful compilation, and during last year 22,650 copies were sold. The figures may not convey much meaning to the public in general, but if we remember that of the four catalogues of the National Gallery the year's sales were 27,082, Birmingham compares favourably in a competition where all the world were rivals.

THE report of Sir E. J. POYNTER on the National Gallery is satisfactory, for it is well to know that nearly half a million visitors saw the pictures in Trafalgar Square, and that over 180,000 visited those at Millbank. The collections have been enriched by several valuable works, those bequeathed by the late Mr. HENRY VAUGHAN being the most important. It is also gratifying to learn that the isolation of the Gallery has engaged the attention of the Government, and may be effected within a reasonable time. The purchases include *The Courtyard of the Koptic Patriarch's House in Cairo*, a characteristically elaborate work by JOHN F. LEWIS, R.A. Examples by JEAN GOSSART, MABUSE, LUCA SIGNORELLI and FRA BARTOLOMMEO have been acquired. Mr. G. F. WATTS, who seems to have an inexhaustible supply at command, has presented his *Love Triumphant*, *Time, Death and Judgment*, besides a bronze bust of CLYTIE which he modelled.

A CASE was brought before Judge WILLIS, K.C., recently in the Norwich County Court which proves the desire of workmen to widen the application of the Workmen's Compensation Act, although what is generally held as desirable is some more definite restriction of the provisions. A labourer who was employed in connection with the building of a chimney-shaft and boiler stepped on a nail which was in a board on the ground. Lockjaw set in, and the man died next day. His widow claimed 203*l.*, or at the rate of 26*s.* a week for three years. Numerous as have been the cases tried under the Act, there is not one relating to a similar mishap, and the judge held there was nothing enacted to make an employer responsible for every nail which might be lying on the ground. But counsel for the claimant said the accident was incidental to the man's employment. On such occasions the arguments *pro* and *con* can become interminable, and the judge decided that the hearing must be adjourned. His Honour had doubts whether the case came within the Act. But the claimant's counsel said they were prepared to take the case to the Court of Appeal. The hearing was therefore postponed to May 31.

A PAPYRUS roll has lately been deciphered by Professor ERMAN, which he maintains was written 1,080 years before the Christian era. Unlike the majority of records of its class, it has interest for others besides professed Egyptologists. It relates to a business transaction undertaken by a priest who had to journey to Lebanon, in Phœnicia, in order to obtain sufficient cedar to restore or reconstruct the boat which was used for the transit of the figure of the god of his temple, AMUN-A, upon the Nile, to Thebes. The priest was called WENAMUM, and as soon as he arrived at his destination he sought an audience with the Governor in order to obtain the wood. But by some oversight he had neglected to conciliate the great man by the presentation of gifts. The Governor was not backward in making an insinuation of the omission. When WENAMUM applied to the official ruler the needful presents arrived, and they included, strange to say, no less than 500 papyrus rolls. What use such things could be to a Phœnician prince is not plain, but the gift shows that we have still much to learn about ancient Egyptian life. The Governor may have been like many modern book collectors, and was ambitious to possess a valuable library, but had no intention of studying a sentence. Whatever was the use they were afterwards to serve, the rolls were irresistible, and WENAMUM became the happy possessor of seven fine cedars.

ARCHITECTURE AT THE ROYAL ACADEMY.

ALTHOUGH the Architectural Room appears this year to have the walls covered, there are less than the average number of drawings. Last year there were 233, this year there are 166. One of the reasons of the difference is to be found in the larger size of many of this year's works, and, moreover, we do not see so many proofs of concessions to the desire to appear in the Academy catalogue by the acceptance of drawings of ornamental works which are barely as large as a page of note-paper.

The Academicians have not interpreted rigorously the old rule which says "that no works which have been already exhibited in London are admissible." The consequence is we can again see two of the drawings of the accepted design of Mr. Mountford for the Sessions House for the Corporation of London at the Old Bailey; the design by Mr. Baggalay and that of Mr. Belcher, together with a perspective of the design of Messrs. Ernest Rüntz & Co. for the Strand Improvement, and another by Mr. Flockhart for the same scheme. As we have already described and illustrated those attempts, it is not necessary to add to the observations on them, but we may be allowed to say that the design of Messrs. Rüntz looks better in perspective than it did in the elevations, while the picturesqueness of Mr. Flockhart's design appears to be not so attractive when treated perspectively. We do not offer any reasons for the difference, but it is not the first occasion a similar phenomenon has been observed in dealing with competitive drawings.

Mr. Norman Shaw does not exhibit this year, and Mr. Waterhouse is again represented by an oil-painting in Gallery No. 6. With those exceptions the Academicians and Associates have contributed several examples. A long time has elapsed since Mr. Aitchison sent a building to the Academy. His "Offices, 44 Mark Lane, E.C.," are of a Byzantine type. The entrance seems much too restricted for the crowd about it. The style of the drawing also gives the impression that the exterior of the building is covered with a wash of dirty white. On the whole, the building will cause disappointment. Mr. Jackson sends another drawing for his "New Buildings for the University of Cambridge," in which law, geology and archæology have each a part, showing a distinctive character. Mr. Bodley, who is too rarely an exhibitor, has illustrations of some of his churches. One is St. Matthew's Chapel, Allerton, of which we lately published illustrations; another is a church at Kensington, with one of the designer's fine screens; a third is St. Mary's, Ecclestone, in which colour is admirably employed. We have also a sketch for a new tower at Long Milford, which will be a massive structure, the plain work being relieved by ornamental panels. "Hayes Lodge, Morley, Derbyshire," is in the style of the mansions of the county, with immense windows and battlements which suggest that the days of old-fashioned defence may yet arise. Mr. Aston Webb has a large drawing showing the detail of a bay in the Victoria and Albert Museum. The style is refined, while the figures of Donatello and Quintin Matsys show that one of the South Kensington traditions of doing reverence to the old artist craftsmen is not neglected. In the "Sick Quarters for the Britannia Royal Naval College, Dartmouth," we see the pavilion system carried out to an extent which is not possible in large towns where land is costly. Mr. Belcher's second contribution represents another salon in the Château Mauricien, Wimereux. The style is French Renaissance of an elegant type, and as the ceiling is adorned with subjects in colour, colour has to be largely employed in other places. But all is kept to a subdued scale. Without going beyond the Academicians, it will be apparent that a variety of styles can now command equal attention, and as yet the new century does not convey any idea as to which will prevail. Another Academician has claimed the hospitality of the Architectural Room, for Mr. Hamo Thornycroft has a design for the bronze canopy which is to cover the figure of Dean Colet in St. Paul's School. The sculptor is familiar with the properties of metals, and his long bars, which are combined to form an open dome and to be encircled by a great ring of bronze, might be considered as in the style which is now much favoured in furniture and other decoration. We believe, however, that the lightness of the parts, especially in the uprights, will fail to produce an effect proportionate to the cost when they are set up in the large open space in front of the school. The canopy is better adapted to be placed in the interior of a building.

It is remarkable that the warlike spirit which is exercising so much influence at the present day has originated but one design for a national memorial to British heroes. It is by Mr. E. B. Lamb, and shows several small chapels around a church, the whole forming a pyramidal group; it is of much interest. From Mr. Beresford Pite comes "A Memorial Bridge" to the memory of the late Queen, for the superstructure is spanned by a triumphal arch bearing a portrait figure, and the arch is approached by open colonnades. Another drawing relating to bridges is the "Design for piers and facing of Vauxhall Bridge, following the lines of the engineer's construction," by Mr. Statham. Instead of a ring of arch-stones of uniform depth as at present, the modern French plan is adopted of treating each face between the roadway and the opening as continuous voussoirs, which are further emphasised by a series of channelled mouldings. Under the new conditions the dimensions of a pier seem to become inadequate to resist so large a mass of unsleeping force.

Schools are numerous. Mr. Leonard Stokes shows a Central Girls' School and a Central Boys' School at Oxford, the latter having a rather irregular plan, which has been well adapted. "The Borough of Leamington Spa Free Library, School of Art and Technical School," by Mr. J. M. Bottomley, is more expensive than such a building would ordinarily be in a manufacturing town. A good deal of variety was permitted. "The School of Economics, University of London," should have been made by Mr. M. B. Adams more expressive of the principles taught. Economy and mathematics are closely allied, and superfluities should have no part in either system. The building should be severe and yet refined. But the architect has not been economical in shields and petty ornaments, balls on columns and other details, for which no utility can be discovered. If M. Emile de Laveleye or a similar economist could have overhauled the plans many of the excrescences would have been cleared away. "The New Medical Laboratories, Netley," by Mr. E. S. Prior, are of a severe Renaissance type. Variety has been gained by setting back some of the rooms with glazed divisions. Mr. W. H. Knowles's "School Board Offices, Newcastle-upon-Tyne," is a dignified example of an eighteenth-century building. High railings give it an air of aloofness, and the openings are well treated, expressing repose rather than fussiness. In "St. Paul's School for Girls, Hammersmith," Mr. G. C. Horsley has produced a rather severe building, but the introduction of sculpture around the entrance and in the gables will have a salutary effect. In "The Infants' School, Cresswell," Messrs. Brewill & Baily show a low picturesque edifice with large windows, and with nothing depressing about it. The Royal Caledonian Orphan Asylum has been removed to Bushey, and in the building designed by Mr. W. Emerson we have a large structure in pale brick and very quiet in treatment. A chapel is arranged in the centre, and there are projecting wings; the building is only two storeys in height, thus showing a consideration for children that is praiseworthy. "The British School, Trowbridge, Wilts," by Messrs. Silcock & Reay, is rather plain in red brick and stone. "The Technical Institute at Warrington," by Messrs. W. & S. Owen, will produce an educational effect on passers-by from the number of names of inventors which are introduced in connection with the windows. Mr. A. S. Jones's "Design for Board School" is in brick and terracotta, not unlike those with which Londoners are familiar. "Beadle's School, Petersfield," by Mr. E. P. Warren, shows a very large block with square-headed windows. The authorities evidently do not care much for outward show, preferring the utilisation of space for practical purposes.

Greyfriars Church, Aberdeen, is a building with a history, as it belongs to Marischal College. A few years ago it was in danger of being destroyed in order to provide land for extending the classrooms. It is of the sixteenth century, and is not without defects which arose from unacquaintance with Gothic. The design for the restored west front by Mr. A. M. Mackenzie, A.R.S.A., shows a vast improvement on the old building. The aspiring spirit of the style is evinced in the part where it was needed. One of the most interesting features of the "Italian Hospital in Queen Square," designed by Mr. T. W. Cutler, is the annexe, which is nearly circular in plan and contains the staircase and chapel surmounted by a dome. Mr. J. J. Stevenson's "New Church at Stirling" will at first cause some surprise, for it suggests that the Free Church of Scotland has at last approved of a chancel as part of a church. The exterior may warrant that conclusion, but the supposed chancel is a hall. The building has a large tower surmounted by a coronal, a feature of which the architect much approves as characteristic of the north. Mr. W. D. Caroë has three important church buildings. "Stoke Damerall Church" is very effective in the exterior views on account of its fine tower, and the skilful way its parts are broken up. But the interior is less impressive. "The Proposed New Chapel, &c., Bishop's Palace, Liverpool," consists of a group of residences or offices. The chapel has a stunted appearance, and unless greatly altered will look as if incomplete. "The Church of St. John, High Wycombe," is another rather picturesque building, or rather group, for there is a regular gradation in the various heights so as to give the effect of unity. "The Private Chapel in a Nobleman's Park," by Mr. E. B. Lamb, is not definite in style, for Renaissance as well as Gothic have been utilised. Mr. T. H. Watson's "St. Peter's Church, Cricklewood," is a good example of a village church. Another interesting church is St. John the Baptist, South Witham, which has been restored by Messrs. Brewill & Baily. A quiet example of a tower is shown by Messrs. Milne & Hall; it belongs to St. Mary's, Oatlands. Another tower of a more ornate class, and which at a distance might be considered as Spanish, is taken from St. Paul's Church, Heaton Mole, by Mr. F. M. Oakley. Mr. T. H. Lyon has designed the reredos for St. Michael's, Islington. The proposed church at Enfield by Messrs. Banister Fletcher & Sons is picturesquely treated. The piers and buttresses are remarkable for their massiveness, and show the importance of weight alone. The "Design for a Stone-vaulted Church" by Mr. A. J. Creswell is another instructive example of individual treatment. The roof is supported by fan vaulting, which is of a more severe character than is commonly undertaken. Mr. Halliday's "Church at Barry Dock" has the tower placed as if marking entrance to transept. "St. Peter's Church, Oystermouth," promises to be an admirable building, and as a part is a memorial to the late Miss F. Havergal, the poetess, there ought to be little difficulty in obtaining the funds to realise Mr. E. Bruce Vaughan's work. "The Unitarian Church, Birkenhead," Mr. Talbot, is reminiscent of a village that is remote from towns. A very dignified church is "St. Matthew's, Auckland, N.Z," by Mr. F. L. Pearson. "The Church of St. Felix, Felixstowe," the work of Mr. J. H. Eastwood, is of small dimensions, but retains an ecclesiastical character throughout. A large church is to be erected at Leeds for Congregational needs by Mr. Danby; and Mr. G. H. F. Prynne, in the design for the "Church, Lower Sydenham," has produced a building which is marked by his usual vigour.

(*To be continued.*)

PAINTING AT THE ROYAL ACADEMY.

ANYONE who cannot make allowances for the influence on the minds of artists of public events such as wars, depression of trade, indifference to art or the various means to explain what would otherwise be inexplicable, had better avoid visiting the paintings at the Royal Academy. Compared with many of the exhibitions of recent years, this year's stands on a low level for many departments of the art. One reason for the difference may be the unusually large proportion of portraits. In some rooms every fourth work is a likeness of a person that is generally unknown. About twenty portraits are the average in one of the smaller galleries; in No. 3 there are over thirty. Portraiture is an important branch of art, and some excellent painters are never so successful in their attempts in any other kind of painting. But to have an immense number of pictures for whom the majority of people do not care and who rarely have sufficient personal distinction to claim any notice from the crowd, must affect the brain and increase the discomfort which may arise from other causes.

But if the exhibition is unsatisfactory it can claim to have some relation with contemporary events. No class of subjects would be more interesting for a winter exhibition than a collection of paintings which illustrated the national crisis at the beginning of the nineteenth century, when England was at war with so many Powers. We have no doubt that at the close of the twentieth century people will also be anxious to have an important part of the present exhibition reconstituted, in order to enable many to understand in what way the great events lately encountered were explained by means of art. A long time has elapsed since an exhibition was seen which had so many claims to be regarded as one of national character as the one that was opened to the public on Monday.

A few of its elements are therefore worth notice. We have, in the first place, the portrait of the late Queen by M. Benjamin Constant, to which a very large amount of wall space has been devoted. As the picture was produced prior to 1901 it cannot be said to have been called into existence by the event of January 22. It is not, therefore, a portrait painted in a hurry in order that advantage might be taken of a universal loss. If it had been painted this year the treatment would probably be different. M. Benjamin Constant was not satisfied in presenting a likeness. What he sought to suggest was the principal representative of the monarchical system. He did not, therefore, paint Her late Majesty as she might have been seen whenever she opened Parliament. His Gothic surroundings were, no doubt, suggested by the details of the throne in the House of Lords, but they are not implicitly followed. The Queen is, as it were, surrounded by Mediæval forms, and the light which illuminates them, as well as the royal countenance, is not the struggling light of which glimpses gain an entrance into Barry's building. What we see rather is the light of antiquity which casts a halo over a Sovereign whose rights to supremacy were accepted by her as of Divine origin. The portrait is symbolic of much which the Queen could claim, and which was joyously acquiesced in by her subjects. There is a connection between this remarkable work and what is seen in *The 22nd of January*, 1901, by Stanhope Forbes, where in some humble cottage we see a small group listening while an account of the death is read. No engraving or object exists in the room which gives point to the title. The reverence with which the narrative is attended to, as if it were a chapter from the Bible, testifies to the sincerity as well as the universality of the grief. Mr. Wyllie's *The Passing of a Great Queen* shows us the mournful cortège on the way to Portsmouth, and in the same room Mr. John Charlton gives us a glimpse of the funeral procession passing St. James's Palace in his *2nd of February*, 1901. A few pictorial scenes, and yet how much that is memorable is conveyed by them. In Mr. Hatherell's *God Save the King: York Herald Proclaiming Edward VII. at Chancery Lane*, we see the initiation of the new order, which we all hope will not be without due influence on art.

There are other pictures to demonstrate the stirring times in which we are living. Mr. Gow's *Death of the Khalifa* is a solemn night scene in which the steadfast bravery of our enemies and their devotion to their chief is vividly expressed. In Mr. Caton Woodville's *Lindley, Whit Sunday*, 1900, where English troops are seen receiving Communion on the veldt, we have a suggestion of the religious spirit which animates our soldiers in the face of the enemy. Mr. Byam Shaw indicates the grief that has fallen on many gentle hearts in what he calls *Boer War*, 1900. Of the bravery which was displayed in the early days of the war we have also a reminiscence in Miss Kemp-Welch's *Lord Dundonald's Dash on Ladysmith*. In it, as in similar pictures, we realise how well adapted is khaki for a painter's use. The brown uniforms are in keeping with the bleak and stony ground, and a battle-scene in the old British scarlet would seem to be out of place on the walls.

It might have been supposed that with such momentous subjects as were to be painted rivalry was out of the question, for, as a rule, tragic scenes are absent, and next to the portraits records of domesticities pervade the exhibition. Mr. ABBEY, who of late has contributed large and impressive canvases, has confined himself to a rather small work, *Crusaders Sighting Jerusalem.* The theme is excellent, but an immense stretch of space would be requisite to render such a scene fairly. It would have been preferable if such an incident as CŒUR DE LION turning his head away from the city because he could not deliver it had been selected. But Mr. ABBEY'S *multum in parvo* method suffers from its boundlessness. The panel suggests that it was a design for a painted glass window, or for some fraction of an area to be decorated which was difficult to utilise. The late Sir JOHN GILBERT was allowed for a long period to have a monopoly of Cardinal WOLSEY. Mr. SEYMOUR LUCAS has boldly seized on the Minister, and in *The Clouds that Gather round the Setting Sun* shows a scene which might have occurred about the time of WOLSEY'S fall. The Cardinal, in his bright scarlet robes, is walking in an old fashioned garden —we may suppose it is Hampton Court—close to a high privet hedge, and half-contemptuously observing him are three courtiers. The mutiny in the Minister's mind is manifest, and the picture tells its story at a glance. WOLSEY has been so fruitful a figure to artists, his reappearance should be welcomed. Mr. CHEVALIER TAYLER'S *Honi soit qui mal y pense* depicts the origin of the Order of the Garter, but it cannot be said that he gives more probability to the incident than the majority of those who have dealt with it. Mr. H. PETHERICK presents a novel version of the invasion of Britain by the Romans. An artistic incident which is historical is the *Discovery of Grinling Gibbons by John Evelyn*, 1671. The amateur obtained for the carver an appointment in the Board of Works, and he was largely employed at Windsor. Out of gratitude he presented a bust to his benefactor. It is remarkable that none of his contemporaries appeared to know of what country GIBBONS was a native. He was described as born in Holland of British parents, while another account said he was born in Spur Alley in the Strand, and was the son of a Dutchman. The painting is Mr. EDGAR BUNDY'S only contribution to the exhibition. The historical paintings were probably never so few in number, but we cannot believe it is more than a temporary suspension of the practice of one important form of art.

The representations of past life, although not altogether entitled to be considered historical, are more numerous. Sir L. ALMA-TADEMA'S *Under the Roof of Blue Ionian Weather* recalls the time when Greece was flourishing. Limited as is the area, there is no lack of white marble, and the art is so well concealed it is no wonder so many imagine there is no difficulty about the representation of the material. It is a picture to enjoy on a hot summer's day. The President's *Helena and Hermia* is a scene from the "Midsummer Night's Dream" that several artists have attempted from time to time. The miracle plays had brought back antiquity to the stage, and the moralities of a later time combined allegory with reality. "We are such stuff as dreams are made of" was the declaration of PROSPERO, and the Athenian life that is presented is no more than a dream. It is therefore excusable if in Sir E. POYNTER'S architecture he goes beyond all evidence which has survived, but neither in characters nor accessories is it possible to be animated. Mr. WATERHOUSE'S *Nymphs Finding the Head of Orpheus* is characteristic of much of his later work. His nymphs are as the Athenian maidens, dream-like beings, and never likely to become dupes of the heart. Mr. FRANK DICKSEE'S *Iseulte* is a woman of a different kind, but then she belongs to a later period; she is not idealised in the picture, and is as richly apparelled as any figure ever painted by the artist.

It is very difficult to make a selection among the numerous portraits. The taste of visitors now seems to run upon slap dash representations of costume, and so long as the work is executed in a spirit of bravado no attention is given to the kind of intellect or character represented. There are some portraits, however, of a higher class. Mr. T. G. JACKSON is represented by Mr. H. D. RIVIERE as working at his drawing-board, and it is a model of what such a work should be. By the same artist is an admirable portrait of Mr. H. J. JONES, the dramatist. Mr. SARGENT has well suggested the keen intellect of Professor BYWATER. Mr. SANT has endeavoured to realise the appearance of the great NAPOLEON in his last days. Mr. VON HERKOMER'S *Duke of Somerset* represents a peer who can wear ancient costume as if to the manner born. But what will give most satisfaction is his *Zither Evening with my Students in my Studio*, which might have been painted in a time competition, but which brings out the character of the guests individually as well as the artist's surrender of himself to his instrument.

The occurrences in modern life which are exhibited are too numerous to make an analysis of them. It seems, however, that preference is now given to scenes in the country rather than to those which relate to life in towns. Architectural subjects are not attempted, for the art appears this year to be only recognised when it becomes useful as a background. As we have said, the exhibition is exceptional in character, and the class of subjects which is now scarce will probably be over abundant in 1902.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE annual general meeting of the Institute was held on Monday last, the 6th inst. Mr. W. Emerson presided. The report of the Council was submitted and adopted. It stated that the greatest and most serious event has been the loss by death of the gracious and beneficent patron of the Institute, almost since its first incorporation in 1837, Her late Majesty Queen Victoria. By sending a telegram of condolence, a wreath, and a humble and loyal address to His Majesty King Edward VII., the Council have done their best to express in a manner worthy of the Royal Institute the deep and affectionate sorrow of members, their sincere and humble sympathy with the King and the Royal Family, and their loyal and devoted adherence to His Majesty's person and throne. His Majesty has graciously consented to continue as King the patronage which he has extended to the Institute as Prince of Wales since the year 1863, and it is also His Majesty's pleasure to continue Her late Majesty's generous grant of an annual Royal Gold Medal to the nominee of the Royal Institute.

The present subscribing membership of the Institute consists of 621 fellows, 1,028 associates, 46 hon. associates; total, 1,695.

During the official year since the last annual general meeting 29 fellows have been elected, 46 associates, 3 hon. associates and 1 hon fellow. The Council must attribute the smallness of the increase in membership in the class of fellows to the more than usually heavy losses by death, by resignation, by transference to the class of retired fellows and by other removals from the list. There have been only three special elections to the fellowship by the Council under the new proviso to by-law 9, as compared with eleven last year and twelve the year before.

The usual progressive examinations were held in June and November 1900, and the Council have to report a steady increase in the number of candidates for each of the examinations.

The total number of candidates examined during the year was 603, as against 548 in 1900. The number of probationers of the Institute now stands at 1,507, and of students at 368. The Council again regret to say that the Arthur Cates prizes for the best testimonies of study (supplemented by certain specified sheets of drawings) submitted by students for admission to the final examination have not been awarded this year, no student who had passed the examination having fulfilled the conditions.

With a view to securing proper architectural treatment for the Crescent site of the Holborn to Strand Improvement Scheme the Council were asked by the London County Council to co-operate in a scheme whereby eight architects, four to be nominated by each body, should submit designs on certain conditions, each architect receiving an honorarium of 150*l.* A deputation of the Council waited on the improvements committee of the London County Council and protested against the proposed conditions. They suggested that there should be a competition among the eight architects, and that three should be chosen to carry out specified blocks, working together, however, as a consultatory committee on the whole scheme. The interview resulted in a few modifications in the conditions as to the details of drawings required, and an increase in the honorarium offered to 250*l.* The Council were given to understand that there could be no guarantee that any of the eight architects should execute all or part of his design, and the invitation to co-operate was renewed on the slightly modified basis. Desirous of aiding the London County Council in their efforts to secure architectural treatment for the new street, the Council accepted the invitation under strong protest, and nominated four architects. Their names were Messrs. Reginald Blomfield, T. E. Collcutt, Ernest George and R. Norman Shaw. Two of them, Messrs. Collcutt and Shaw, declined the nomination. The Council were requested to nominate two others in their place. In view of the London County Council's disregard of their protest accompanying the original nomination, the Council considered that they had gone as far as was consonant with the dignity of the Institute and the profession which it represents, to meet the wishes of the London County Council, and formally declined to make further nominations.

Another matter to which the Council have given their attention is the alteration of the steps of St. Martin's Church. The London County Council were asked by the St. Martin's Vestry (now merged in the Council of the City of Westminster) to contribute towards the cost of the proposed alterations, which consisted in doing away with the broad platform in the middle of the flight and moving up the lower steps, thereby widening the pavement. The London County Council sought the advice of the Council of the Institute. Acting on the report of the art committee, the Council protested against any proposal to touch the steps, both for artistic reasons and on the ground that the traffic was not so great as to necessitate any widening of the pavement. They urged, however, should the need for widening be found imperative, and consequently the abolition of the landing on the west side, that at all events the landing on the south side should be retained for the sake of architectural proportion. The London County Council adopted the Council's view, and refused the St. Martin's Vestry and the City of Westminster any financial assistance. In reply to a protest from the Council, the town clerk of Westminster replied that the work, having been already begun, must be proceeded with.

The London County Council also submitted for the opinion of the Council their draft by-laws under the Metropolitan Management Acts, as to the deposit of plans with reference to pipes, drains and other means of connecting with sewers. The main suggestion of the Council was that in lieu of elaborate duplicate plans and sections, which it was proposed that any one about to construct or reconstruct drains, &c., should deposit with the sanitary authority, it would be sufficient if one carefully prepared block plan were sent.

The Council having been invited by the Bridge House Estates committee to offer their suggestions on the proposed plans for the widening of London Bridge, referred the matter to the art committee, and adopted their report. While deprecating any interference at all with the structure, they suggested in case of necessity an alternative scheme whereby the face of the parapet should be restricted to the line of the existing piers, instead of overhanging them. The latest information received from the Corporation is that consideration of the scheme has been referred to a sub-committee of the Bridge House Estates committee.

A definite suggestion as to the collaboration of engineers and architects having been made at the Congress last June, the Council approached the Institution of Civil Engineers on the point. The Council of the Institution courteously responded by inviting members of the Council and the art committee to be present at the reading of a paper on "The Æsthetic Treatment of Bridge Structures," by Mr. J. Husband; and at the discussion thereon, which was continued at two subsequent meetings, the President and various members attended and put the views of architects on the subject before the Institution.

Adopting the report of the art committee, the Council have addressed a protest to the Ecclesiastical Commissioners and the Lords of the Privy Council against the Union of Benefices Bill as drafted when introduced before Parliament last year. They urged that this Bill to extend the Union of Benefices Bill 1880 to the whole of England and Wales should contain provisions whereby precious architectural monuments should be safeguarded against the destruction that has been permissible and practised in London under the provisions of the existing Act.

The Council adopted the report of the science committee on the new regulations proposed by the London water companies, and sent in a protest, together with criticisms of the proposals, to the Local Government Board, by whom they were invited to send representatives to the inquiry held at the Guildhall, Westminster. Before final arrangements could be made for receiving the evidence of these representatives, the water companies withdrew their proposals and the inquiry terminated. The thanks of the Council are especially due to Mr. H. D. Searles-Wood for the time and trouble he devoted to the matter on behalf of the Institute.

The Council regret that their negotiations with the Institute of Builders, extending over a space of two years, have come to a fruitless conclusion. After much effort, suggestions for a revised form of contract were agreed upon by representatives of the two Councils, and the amended clauses were printed in the Journal on the agenda for the general meeting on January 7. The arbitration clause was found, however, to be so unacceptable to the general body of members that no resolution was moved from the chair at the general meeting. The form was discussed, and the chairman, on behalf of the Council, promised a revision of the arbitration clause before presenting it again to the Institute. The Council submitted to the Institute of Builders a revised arbitration clause, in which Clause 16 (materials) was inserted among the clauses exempt from the operation of the arbitration clause. The Council of the Institute of Builders accepted this proposal on the condition of certain changes being made in Clause 16 itself, which practically rendered its inclusion among the exempted clauses nugatory. A deadlock occurred, and the Council reluctantly declined further negotiation on the subject with the Institute of Builders.

In accordance with the resolution of the general meeting held on April 9 last year a joint committee of the Institute and the Surveyors' Institution have had many meetings to consider alterations in the law of ancient lights.

The Council recommend to the attention of members the Architectural Museum, Tufton Street, Westminster, which is somewhat in need of funds, for purposes of repairs, maintenance of the 4,000 casts of examples of Gothic work, and the purchase, if possible, of casts of Classic and Renaissance examples. They feel that the support of the profession at large is deserved by a most valuable institution, whose foundation and maintenance have been the devoted work of a few men. The Council have decided to make the museum an annual grant of twenty guineas, on the condition of the Council being adequately represented on the committee of the museum.

The question of architects' names appearing on advertisement boards has come before the Council, and they have issued a resolution which has been printed several times, to the effect that the signing of an architect's name on his building is not derogatory to the profession, but that "it is undesirable for architects to place their names on boards and hoardings in front of buildings during course of construction for purposes of self-advertisement." The Council earnestly hope that members will co-operate with them in making this resolution as effective as possible.

The Council take this opportunity of drawing attention to the needs of the Architects' Benevolent Society, and express the hope that the names of more members of the Institute will appear in the list of subscribers.

The Council are much gratified in being able to draw attention to the satisfactory financial condition of the Institute. Early this year the sum of 1,050*l.* was invested in Queensland Government Three per Cent. stock, thus bringing the total amount of the invested capital of the Institute up to 10,000*l.*

BERKS ARCHÆOLOGICAL SOCIETY.

THE annual meeting of the Berks Archæological Society was held at the Abbey Gate, Reading, on the 1st inst. The president (Mr. C. E. Keyser, of Aldermaston Court), occupied the chair.

The President, in briefly opening the meeting, said he wished specially to emphasise the regret they all felt at the loss of their patron, Her Most Gracious Majesty the Queen, who had for many years honoured them by filling that position. They, in common with all her subjects, truly felt the great loss that everyone in this Empire had sustained by her death. They had lost another good friend, and a distinguished member of that Society, in the Bishop of Oxford, who as one of the vice-presidents took a great interest in their Society. With regard to matters generally, he hoped they all felt that the Society had had a very successful year. They had had several pleasant excursions, and a considerable number of interesting papers had been read at their meetings; altogether the Society was at the present time showing gratifying vitality. One sign of that would be clear to them all when their good treasurer presented his balance-sheet. There was a time when they did not know how to "make both ends meet," but that day they felt strong enough to vote three guineas to the Silchester Exploration Fund, and a further guinea to the restoration of the tower of North Moreton Church. He hoped that during the coming year they would be able to arrange some very pleasant excursions. He was at the last annual meeting of the Newbury Field Club, and he thought that an expedition to Faringdon, where there were very interesting churches and houses to inspect, might be held this year with success. At Faringdon no doubt their Society would be willing to read a paper giving the history of that ancient town. The meetings of that kind which they had already held at Wantage and Abingdon had done a great deal to popularise the Society, and had helped to realise the wish of the executive, which was to make that as much of a county Society as they possibly could.

The Rev. P. H. Ditchfield then read the minutes and also the annual report, and Mr. Ravenscroft submitted his cash statement for the year ending December 31, 1900.

The President moved that the report and statement of accounts be received and adopted and circulated among the members.

Mr. Strange, in seconding, said they should be very grateful to their treasurer for the way in which he had managed a very uphill task.

The Rev. R. P. Newhouse supported, expressing his personal gratitude as vicar of the parish to the Society for the most generous way in which they had allowed him the use of that room for some of his parochial organisations.

The resolution having been carried,

The President moved that a respectful address be sent to His Majesty King Edward VII., asking him to do the Society the very great honour of becoming their patron in place of Her late Majesty the Queen, who had been their patron for many years.

The Rev. A. Cheales seconded the resolution, and it was passed unanimously.

The Rev. P. H. Ditchfield proposed the re-election of the President, of the Vice-Presidents (with the addition of Mr. W. Berkeley Monck), and of the committee (with the substitution of the name of Mr. Challoner Smith for that of the late Mr. John Messer, and this was seconded by Mr. Ravenscroft and cordially passed.

The President acknowledged in suitable terms the honour done him.

The Rev. Alan Cheales read an interesting paper on "Relics of Reading Abbey, the Abbey Stone, the Abbey Coffin and the Abbey Hand." He began by saying that singularly few relics of the Abbey had survived. The head of a knight in chain armour from an altar-tomb; some floor-tiles; a trendle or chandelier, which perhaps hung in front of a rood-loft, with some Abbey tokens, were nearly all that were in the Reading Museum. Of the three chief relics two were elsewhere—the Abbey Stone now forming part of the font at St. James's Roman Catholic Church, and the Abbey Hand being at Marlow; while the Abbey Coffin was in the ruins, but this had a very uncertain history. The "Abbey Stone" was described by experts as "perhaps the finest existing specimen of Norman tracery work of the period." Mr. Ravenscroft kindly furnished a most admirable full-size drawing of it. The "Abbey Coffin" had been written on by both Dr. Doran and the late Rev. J. M. Guilding, but it was now considered that the unhappy stone coffin, with its "chimneypiece" canopy in the ruins did not answer to that which Archdeacon Nares described in Doran's "History of Reading." In that case, where was it? There was a curious report of the finding of the silver coffin, still extant, in which the king was said to have been buried. Mr. Ravenscroft had again given a sketch—this time of what the king's coffin may be supposed to have been like. The "Abbey Hand" was not less perplexing in its history. Certainly it was found in a box in the ruins about 1820, and Dr. Doran quoted Dr. Bailey's description of it as "undoubtedly the hand of a royal woman, who could only have been Queen Adelina, second wife of Henry I." The modern idea was that it was the hand which the Empress Maud brought to her father for his abbey, and which she declared was the reputed hand of St. James of Compostelle, the son of Zebedee. An article in Mr. Ditchfield's new work, "Bygone Buckinghamshire," by Mrs. Climenson, upon "The so-called uncorrupt hand of St. James" would probably give at full length that most singular history.

EDINBURGH ARCHITECTURAL ASSOCIATION.

ON Saturday afternoon Mr. Goodchild, of the Geological Survey, conducted a party over Arthur's Seat with the object of explaining what is known regarding the development of the physical features of the hill. As these now appear, they are all of quite recent geological age—the rocks now exposed having been until lately covered by other strata which formerly extended over these parts. After the Edinburgh volcano had finally quieted down, which was in Lower Carboniferous times, an extensive subsidence of the earth's crust began, and was coutinued through many millions of years. As a consequence a vast pile of sediments of marine, as well as of estuarine, origin slowly accumulated over the site of the volcano. At a later period, before any of the new red rocks began to be formed, these carboniferous sediments and the volcanic rock included within them underwent considerable disturbance within the earth's crust, and were much fractured and folded as a result of these derangements. Then they were slowly upheaved and underwent enormous waste, nearly 20,000 feet of rock having been slowly wasted away in some parts—as is the case at Clitheroe in Lancashire—during this period. The rocks out of which Arthur's Seat has since been shaped were slowly raised above sea level during this episode. Then ensued another period of subsidence and denudation, during which, first the Trias and then the marine and estuarine Jurassic rocks were laid down over the surface just referred to. In times still nearer our own, these in their turn were slowly wasted away, their constituents being used up in the formation of a later set laid down elsewhere, until in the end the old volcanic rocks were re-exposed in their present position. It is out of the mass thus elevated that, in the course of long ages, rain, rivers, frost and other sub-aerial agents have shaped the hill into its present form. On the motion of Mr. Henry F. Kerr, the president, a vote of thanks was accorded Mr. Goodchild.

THE ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

A GENERAL meeting of members was held at the rooms of the Institute, 20 Lincoln Place, Dublin, on May 2, at 4 o'clock P.M. The chair was taken by Mr. J. Rawson Carroll, F.R.I.B.A. Mr. W. Kaye Parry, M.A., hon. sec, read the following letter :—

Home Office, Whitehall :
March 28, 1901.

SIR,—I am commanded by the King to convey to you hereby His Majesty's thanks for the loyal and dutiful resolution of the members of the Royal Institute of the Architects of Ireland, expressing their sympathy with His Majesty and the Royal Family on the occasion of the lamented death of Her late Majesty Queen Victoria.—I am, sir, your obedient servant,

(Signed) CHAS. T. RITCHIE.

The following resolution was proposed by Mr. J. J. O'Callaghan, seconded by Mr. F. Franklin, and carried unanimously :—

That the draft by-laws of the Ulster Society of Architects be approved of, and that the Council of this Institute be authorised to make the necessary alterations in the by-laws of the Institute to make them conform with those of the Ulster Society.

The following candidates for membership were declared duly elected :—

William A. Scott, London ; Jerome O'Connell, Curragh Camp ; Henry Seaver, Belfast ; and Anthony Thomas Jackson, Belfast.

SOMERSET ARCHÆOLOGICAL SOCIETY.

THE members of the Axbridge branch of the Somerset Archæological and Natural History Society, about seventy in number, accompanied by the president (Mr. Jackson-Barstow) and the hon. sec. (Mr. Ernest E. Baker), left Weston-super-Mare on the 27th ult. by special train per the light railway, and arrived at Clevedon about half an hour later, where comfortable breaks were waiting to take them to Wraxall and Tickenham. The first object of interest was Wraxall Church. Here some little time was spent in viewing the interior and exterior, and Mr. Baker read a paper dealing with the antiquities of the edifice. The company next assembled at the Manor House, Tickenham, where, by invitation of Mr. and Mrs. Jackson-Barstow, tea was provided and served on the lawn. Hearty thanks were accorded the President, on the initiative of Mr. Baker, supported by Mr. H. Pethick, and also to the hon. secretary for his energy and diligence. The church was next visited, and was found to be a building of much interest, comprising illustrations of all styles of architecture from the eleventh to the sixteenth centuries. Its features of interest were described and inspected under the guidance of the rector, the Rev. H. C. Lory.

TESSERÆ.

Wren and His Enemies.

THE infamous cabals and intrigues that were carried on against Sir Christopher Wren during the progress of the work at St. Paul's are not generally known to the public. Unfortunately the materials for an account of them are some scarce pamphlets, which, from the way in which they appeared, do not furnish us with all the information that could be desired, but they are quite sufficient to mark the spirit of the opposition which the distinguished architect met with from a set of men unworthy to have been his masters, and disgraced by the line of conduct they adopted. In 1712 the first of these pamphlets appeared with the title of "Frauds and Abuses of St Paul's in a Letter to M.P." The writer of the letter founds his attack on Sir Christopher Wren on the occasion of a petition from the inhabitants of the parish of St. Mary Woolnoth, praying, in substance, that their church might be rebuilt out of the surplus of the moneys provided for rebuilding St. Paul's. In this pamphlet, after accusing the architect of protracting the execution of the works for the purpose of prolonging the duration of his salary, which was only 200*l*. per annum—of which salary, be it observed (by a clause in the Act of Parliament for enabling the commissioners to proceed with the building) one moiety was suspended till the completion of the work—the writer proceeds to charge him with connivance at some frauds alleged to have been committed by Mr. Jennings, the master carpenter of the fabric, in relation to the number of men employed and the wages paid to the journeymen, compared with those charged in the account; to this is added a complaint relative to the abuse and misapplication of the materials and time expended. Other and minor complaints are set forth in the book, such as the bad and imperfect casting of the great bell, a charge for more copper in the ball than was used, and some insinuations of Sir Christopher's partiality to a certain iron-founder, and his preference of wrought to cast-iron for the balustrade encompassing the church. In the latter affair Wren was undoubtedly in error, but in the main points he so far proved that he was *sans tache* that he procured the dissolution of the commission. It seems almost needless to observe that the usual and most unjust charge made against architects, namely, that of inaccuracy in their estimates, brought up the rear of the abuses. The answers to the accusations are set forth in a pamphlet entitled "Fact against Scandal," &c., printed for John Morphew, near Stationers' Hall, 1713. Amongst the exposures made in it is one of special interest. It appears that Jennings, the master carpenter, levied a toll called "stairfoot money" on all strangers who were desirous of ascending to view the works from 1707 to 1711. With the most laudable humanity he applied the proceeds to the relief of those artificers who were maimed or disabled by accidents on the works, and to the assistance of their families when the results were of a more serious nature. The moneys arising from this source were too strong a temptation for the Dean and Chapter. Without compunction they put a stop to the charitable disposition of them, and directed the future application of them for the benefit of certain officers in the church. Three more pamphlets appeared, proving the scandalous and unworthy treatment to which Sir Christopher Wren was exposed, and the little respect shown to a truly great man by the deans and prebendaries of that day.

Varieties of Ornament.

The desire for ornament is seen in the savage who spends years in carving the handle of his war axe, which requires no ornament to kill the bear or scalp the enemy. It is an incarnation of fancy, and is a sort of petrified poetry or concrete rhetoric. It is the blossom of the art-tree, whose root is thought and whose trunk is imagination. It is inventive, imitational and composite: Gothic is imitational, Greek inventional and Byzantine composite. The Egyptian took the lotus, papyrus and palm, and conventionalised them beautifully in stone. The Greek used the egg, the honeysuckle, the pine-cone, the ivy and the acanthus; but still more the Egyptian symbols of the fret, the echinus, the zigzag, the guilloche, the astragal and the scroll, the modillion and the dental. The Byzantine had his Runic basket-work, his interlacings, bands, knots and rings. The Moors turned geometrical problems into flowers. The Goths ransacked all nature for the hop, the clover, the rose and the mallow; they stole curves from the waves and the hills, and put every wood and meadow under tribute, making all the flowers in unfading stone adorn the temple of the God who made them. The Renaissance furbished up the old mythology and jostled saints with satyrs. The arabesques of Rome revived, and Paganism looked up once more. From all these and the toil of 1,800 years we have made a patchwork which has not the merit of any style and the defects of all. It is Pagan, barbaric, dishonest, heartless, feeble and unnatural. We have now returned to nature, and we trust with some advantage, since patterns improve and national taste strengthens and widens, though invention still remains timid and patronage is often indiscriminating.

The Sanctuary of St. Martin-le-Grand.

Sanctuary is said to have been first established in this island by Lucius, king of Britain, who is reported to have lived in the third century of the Christian era, but whose very existence is apocryphal. Spelman states that Pope Boniface V. was the first who commanded altars and palaces to be places of refuge for offenders. This was probably in imitation of the ordinance of Moses, which appointed three cities as a refuge for him "who should kill his neighbour unawares." There were two kinds of sanctuary, one of a temporary and limited, another of a permanent and general nature. Sanctuary appears at first to have been only intended to afford a temporary refuge for criminals until they could compromise their offence with their accusers, almost every crime, except malicious homicide, being under the Saxon laws redeemable for money. The lodgings of sanctuary-men became a source of profitable revenue to the ecclesiastics. William Ebesham, a scribe, writing to his master, Sir John Paston, perhaps from this very sanctuary of St. Martin, about the year 1469, beseeches him as an alms-gift for one of his old gowns, plaintively exclaiming, "God knoweth I lie in sanctuary at great costs and among right unreasonable askers." Great abuses crept in as the times declined from their original simplicity, and these were dealt with by the laws acquiring additional strength, till the final and well-deserved annihilation of so dangerous a system. Numerous fabricators of counterfeit plate and jewels sought immunity for their fraudulent trade within the walls of St. Martin's. Long after the dissolution of religious houses and suppression of sanctuaries, they appear to have kept their stand on this privileged ground. The manufacture of St. Martin's became a proverbial expression for counterfeit ware, and continued so even in the seventeenth century. During the Wars of the Roses, about the middle of the fifteenth century, the lawless inhabitants of St. Martin's became, during these intestine commotions, more daring and obnoxious than ever to the city. They issued forth on some occasions boldly from their citadel in a body, assaulted and severely wounded several of the citizens, and retired again within the precinct. The mayor and aldermen put themselves at the head of the citizens, forced opened the gates of the sanctuary and bore off several of the ringleaders. The dean preferred his complaint for breach of privilege, as on former occasions; the mayor was summoned to attend the king, at that time in Hertfordshire, but the citizens of London were now treated with greater respect, and were directed to keep their prisoners until the matter could be more strictly investigated. In the subsequent year a serious affray took place between the citizens and foreigners resident in London. The sanctuary men sallied out and joined the mob in the plunder of the unfortunate strangers. These enormities produced an act of the king (Henry VI.) and the Star Chamber to limit and repress similar outrages.

Mediæval Polychromy.

This mode of decoration appears to have been generally in use from the earliest period, and during all the styles which successively prevailed, even as late as the time of Charles I. Traces of its adoption may be found in the small village church as well as in the cathedral, the object being to give greater value to architectural forms either by producing more complete subordination of parts than could be effected by light and shade alone, or by supplying certain deficiencies and connecting the more ornamental with the less enriched portions of the design. During the prevalence of the Saxon and Norman styles colouring was applied in a rude manner, being frequently limited to mere red and yellow washes, with red and black bands. A singular example is supplied by the colouring on the Norman arches in the north transept at Winchester Cathedral; the whole of the Norman work in that building had been coloured. During the former part of the Early English period little progress appears to have been made in the style of decorative painting; colours were used in masses without distinction of details. The encouragement given to the arts during the reign of Henry III, and the introduction of foreign artists contributed materially to the refinement of taste and increase of practical skill. The practice of adorning the walls of buildings with pictorial embellishments was extended to the decoration of rooms and galleries; colour was also applied both to heighten the effect of sculptured forms, and diapered or arabesque designs were employed to diversify plain surfaces. Bright colours were used in masses, the ground being covered with elegant compositions of foliage, combined with representations of birds, animals or human beings. Beautiful examples exist at Rochester, in the crypt of the cathedral, and the chapel of St. William. Occasionally medallions were introduced in such designs, as on the ceiling of Adam de Orleton's chantry at Winchester. The perfection of polychromatic decoration may be ascribed to the fifteenth century; the designs of that period do not, indeed, present the striking and original character of earlier works, but exhibit art acting under the influence of settled laws with greater certainty of effect, and they are marked by great advance in mechanical skill and elaborate variety. A striking difference is apparent in the forms of diaper during the Perpendicular period; they become more geometrical in design than the forms of the previous times, and more minute in colouring. At no period does it appear to have been considered indispensable that the whole or any particular part of a building should be coloured. The colours were few and simple, and in pictorial compositions only were compound and neutral tints employed. It is very doubtful whether the process of painting in fresco, properly so-called, was ever used by Mediæval artists; wax with volatile oils and resins appears to have been much used as a medium, and a considerable portion of Mediæval painting was executed with turpentine and resin. The use of the oil seems to have been general during the later part of the fourteenth and in the succeeding century, and distemper painting was very commonly employed in buildings of minor importance.

NOTES AND COMMENTS.

According to one of the most familiar of French proverbs, "Tout vient à point à qui sait attendre." Everyone who passes by the entrance of the Pavilon de Marsan of the Louvre and reads the inscription, "Musée des Arts Décoratifs," will agree that no more emphatic evidence of the truth of the old saw could be furnished than is afforded by the history of the Union Centrale des Arts Décoratifs in respect of the latest addition to the Paris museums. Soon after the Franco-German war some Frenchmen realised it was necessary to depart from the old ways, which were unfavourable to the promotion of self-reliance. The decorative artists or industrial designers of all classes therefore formed a society or union, with the object of creating an institution that would resemble the South Kensington Museum, but which would be independent of all Government aid. The members began with presenting designs and models. Manufacturers offered examples of their best productions and amateurs made over chefs-d'œuvre. The Salon authorities gave a helping hand to the enterprise by lending a room to contain those objects during the exhibitions. It must be said visitors kept aloof. French sightseers are thrifty, and after enjoying the best pictures and statues produced during a year by simply paying a franc, it was considered extortionate to charge a like sum to see a few drawings and objects which appeared to be lent from some of the shops on the Boulevard. Nothing daunted, the Union sought to achieve its goal. A lottery was arranged under most favourable conditions, and in that way a very large sum was collected for the new building. Then dissensions broke out. Fashionable people who had gradually come to take the project under their protection were able to obtain a promise from the Government that the ruined building on the Quai d'Orsay should be assigned to the Union. In that way expense was to be saved, and the new musée would occupy one of the finest sites in Paris. On the other hand, the designers and those who believed that the ruin of France was caused by sacrificing necessities to appearances, wished to have the new galleries in the quarter of Paris which would be most convenient for those who would use the collection for inspiration or as a test of the qualities of their own work. Alternately each side seemed to get the upper hand, and announcements were made of the extraordinary concessions which one party was able to draw from successive Governments. But in spite of all that appeared in the journals, the Musée des Arts Décoratifs remained in an embryo state. Beautiful examples were rendered useless to artists. Large sums of money were lying unproductive, and it was once more apparent that Frenchmen are helpless unless they yield themselves unreservedly into the hands of Government. In the public interest the Government had at last to take charge of the treasures of the Union and to find a habitation for them. The Pavilon de Marsan was utilised for the purpose, and M. Redon was entrusted with the difficult task of converting it into a museum of decorative art. The Union has attained its end, and may claim to have founded a new institution, but it has also been demonstrated that English ways cannot be advantageously imitated in France.

The subject of smoke nuisance has as yet received so little attention from the Courts, there must necessarily be many doubts about the signification of the terms of the Act. The Public Health Act in respect of the prevention of smoke may not be such a treasury of litigation as is afforded by the Workmen's Compensation Act, but there is enough to show that simple points can give rise to expensive lawsuits. The case which was heard before the Lord Chief Justice and Mr. Justice Lawrance, and which will be known as the South London Electric Supply Corporation *v.* Perrin, affords a slight indication of the vast extent of debateable ground. In November last a complainant named Perrin charged the Supply Corporation with allowing a nuisance to exist, which, in the words of the Act, was "a chimney (not being the chimney of a private dwelling-house) sending forth black smoke in such quantity as to be a nuisance." It was charged that on ten separate days black smoke issued from the chimney, which was 180 feet high. The times varied from a quarter of an hour to two hours. The metropolitan police magistrate who heard the case in the Lambeth Court decided against the Supply Corporation, and imposed the maximum penalty of 10*l.* for each offence. An appeal was brought, and it was contended that the conviction was wrong, because no one had been called to say that the black smoke was a nuisance to himself. The mere issuing of the black smoke was no sufficient; it must be shown in addition that it was a nuisance to some one. The essence of the offence was that the smoke should issue "in such a quantity as to be a nuisance," and the mere issue in itself constituted no offence. The prospect of everyone on whom blacks had fallen from a high chimney having to come forward and give evidence about the extent to which the nuisance operated on each individual is alarming. The Lord Chief Justice, in giving his decision, said he must not be thought to say that the magistrate must convict simply because black smoke had come out of a chimney. On the other hand, he was of opinion that it was not necessary to show that a particular individual or property had been subjected to a nuisance by reason of black smoke. In his opinion it was impossible to argue there ought not to have been a conviction. In that opinion Mr. Justice Lawrance concurred, and the appeal was dismissed. The words of their lordships, however, reveal the possibility of uncertainty in the interpretation of the Act. Black smoke can evidently be emitted from time to time during ten days, and yet the owners can escape conviction. Another doubt arose out of the necessity of compelling witnesses to attend to give evidence of inconvenience. But those doubts affect what is most essential in the Act, and the way is left open for further litigation.

At the last meeting of the Council of the Society of Architects the following resolution on the subject of the Victoria Memorial was passed:—"That in the opinion of the Council of the Society of Architects (founded 1884) all architects being British subjects should be granted the privilege of showing their loyalty by submitting designs for the proposed national Memorial to Her late Majesty Queen Victoria, under conditions which should put those resident in distant parts of the Empire as nearly as possible upon an equal footing with those living in England, and that a copy of this resolution be at once sent to Viscount Esher, with a request that it be laid before His Majesty the King." It is satisfactory to find that the claims of artists in the colonies to participate in a work which should be considered as imperial are receiving more recognition. In an article which appeared in *The Architect* on the 12th ult. that course was first suggested:—"We should also recollect that inspiration does not always come at command, even in the case of the cleverest artists. It is almost whimsical in its visitations, and it is just as likely to come to the aid of some young and unknown architect in a back street in Bloomsbury, in a provincial town of England or Scotland, in Montreal or in Sydney, as to any of the five competitors."

An important viaduct is about to be constructed on the railway from Saint-Eloi and Pauniat, in the central district of France. There is a very deep valley of the Syoule, where there is no other way of crossing. The plans have been approved by the Minister of Public Works. The level of the rails will be about 340 feet above the valley. The length of the viaduct will be 1,230 feet, and will consist of three spans, one in the centre of about 470 feet and two side spans. The beams will be supported by two piers of masonry. The viaduct will be of steel, and will cost about 112,000*l.* It is not often so important a work is attempted, and the operations will be watched with interest by English engineers and contractors.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: VIEW ACROSS NAVE TO SOUTH TRANSEPT, SHOWING FOUNT. THE SOUTH DOOR.

BELFAST ROYAL VICTORIA HOSPITAL: THE ADMINISTRATIVE AND EXTERN BUILDINGS FROM THE NORTH-EAST. THE WARDS FROM THE SOUTH-EAST.

SHOPS, JOHN-O'-GAUNT'S, LINCOLN.

ROYAL HOTEL, CARDIFF: RESTAURANT. ENTRANCE HALL.

THE RESULTS OF SOME TESTS WITH FIRE-RESISTING MATERIALS.*

(*Concluded from last week.*)

I WILL now pass to a short series of tests with partitions. It was necessary that the committee should first obtain some data as to the fire-resisting qualities of the ordinary kind of partitions used in building, viz the lath-and-plaster partition with wood laths, the same with wire lathing, and the brick-nogged partition with bricks laid flat and also on edge.

This series was tested together, and the partitions were arranged as shown, a passage 2 feet 4 inches wide being formed in the centre of a hut, and the partitions of the four different classes built on each side, the fire being arranged on one side of the partitions only

The result was as you now see, and the summary of the test is thus recorded :—The lath-and-plaster partition on the right was practically destroyed. Fire broke through the portion with the wood lathing in 28 minutes at a temperature of about 1,600 degs Fahr, and through that on the wire lath in 40 minutes at about 1,750 degs. Fahr. The brick-nogged partition resisted the passage of the fire for the hour, although the plastering was disintegrated and studs charred at a temperature of 2,000 degs Fahr.

A partition may be made fire-resisting in various ways. It may be constructed of combustible material, and be packed with incombustible material, like brick or slag wool. It may be constructed of combustible material, and such material may be made chemically fire-resisting. It may be constructed wholly of incombustible material, and I am enabled to show you the result of tests with each of these forms of construction.

The first of these is with an ordinary stud partition, match-boarded on both sides and packed between the two thicknesses with slag wool. The testee desired a 45 minutes' test and a maximum temperature of 1,800 degs. Fahr., followed by the application of water for 1 minute on the outside and 2 minutes on the inside. This slide shows the general construction, and the following one the view of the partition from the inside after the test

The summary of the test is thus recorded :—The internal boarding was completely destroyed. The slag wool was fused and blackened on the inside face, and a narrow strip down the side of each stud was blackened. The studs were burned down ¾ inch deep. The wire netting was sound. The studs were sound, white, and clean for a distance of 2¾ inches. The outside boarding was sound, white and clean both on the fire and passage, and the fire did not pass through the partition. This view shows the outside of the partition after the test. You will thus see that a partition of this construction formed an effective fire stop for a period at least of 45 minutes.

The next is a comparative test between an ordinary stud partition, match-lined on both sides, painted with oil-colour, and a similar partition with chemically treated wood, and painted with a chemically prepared paint to assist its fire resistance. Fire was to be applied to one side of the partition and at one point for a period of 45 minutes.

On the other side of the partition some furniture and hangings were placed, but the whole arrangement may be more readily seen by the slide. The partitions and furniture were identical so far as construction was concerned, and the tests were started simultaneously in both huts.

Dealing with the non-treated wood first, the summary of the result is as follows :—In 3 minutes smoke appeared in the interior of the chamber. In 15 minutes sparks appeared in the chamber over top of door. In 16 minutes flame over top of door caught muslin hangings. In 30 minutes fire all along top of partition. In 31½ minutes the furniture began to burn, and in 32 minutes everything was blazing freely, and the whole chamber was full of flame. In 40 minutes the view now upon the screen was taken through the door opening of hut, and in 45 minutes everything was consumed except the studs, which were blazing freely.

The result of the chemically treated partition and furniture is as follows :—In 20 minutes the chamber was full of smoke with offensive smell. In 29 minutes two lower boards of partition buckled near gas flame. In 40 minutes charred pieces falling from partition in passage. In 45 minutes wood flaming in third board from bottom over third stud from east wall in passage.

At the close of the test the chamber was entered and the furniture, curtains, &c., were intact and unaffected except at the east end, where they were scorched by the burning timber roof of hut. At no time during the test did the temperature exceed 100 degs. Fahr. The result of this test is sufficiently obvious to need no further remark.

The next and following tests are all with partitions formed of incombustible materials. This partition was formed of terra-cotta wired lathing, fixed to the floor and ceiling, and covered with three coats of plastering on each side, in which plaster of Paris was incorporated. The partition when finished was 2½ inches thick. The next view shows the terra cotta wire lathing in position before the application of the plastering. The testee desired a test of 1 hour and 15 minutes and a maximum temperature of 2,000 degs. Fahr.

The summary of the result is thus recorded :—A portion of the setting coat on the fire side of the partition fell during the application of heat. Hair cracks, from which steam issued, appeared from time to time on the passage side of the partition. On the application of water on the fire side of the partition a considerable portion of the setting coat was washed off. The temperature of the outside face of the partition during the latter part of the test was too hot to bear the hand, although not sufficient to ignite a vesta by contact. The fire did not pass through the partition. It will thus be seen that as a fire stop, for 1 hour and 15 minutes the partition answered its purpose.

A partition on similar lines, *i.e.* plaster on both sides of a lathing medium, is the next which I wish to describe. The lathing medium was of steel sheeting, 28 gauge, and formed into dovetailed corrugations, fitted into H section standards. The plaster was of ordinary material mixed with plaster of Paris, three coats on each side, the total thickness when finished being 2 inches. The testee desired a test of 1 hour and 15 minutes with a maximum temperature of 2,000 degs. Fahr.

The result of this test is thus recorded :—Hair cracks, from which the steam escaped, appeared from time to time on the passage side of the partition. The temperature of the outside face of the partition during the latter part of the test was too hot to bear the hand, and paper held against it was scorched. The fire did not pass through the partition during the 1 hour and 14 minutes it was applied.

The last two partitions to which I shall allude are built up in slabs. The first is in slabs about 1 foot 2 inches by 8 inches and 3¼ inches Each slab has two circular holes 1⅝ inch diameter running horizontally through it; the slabs were jointed in hydraulic lime and sand mortar, and the joints of the slabs on the fire side were raked out and pointed in fireclay, and the whole surface was covered with a thin coating of the same material. The composition of the slabs is thus described :—A mixture by means of water, or plaster hydraulic lime, some sort of neutral material, such as coke, sand, &c., and a fireproof material such as asbestos with an addition of sulphuric acid.

The result is thus recorded :—A portion of the coating of fireclay on the fire side of the partition fell off on the application of water, as also most of the fireclay pointing to the joints. In no place had the fire passed through the partition. The two views of the outside and the inside after the test show the condition of it after the test. This partition for the 60 minutes of the test certainly acted as an effective fire stop.

The other partition was composed of slabs 4 feet 10½ inches long, 10 inches high and 2¾ inches high, one face was fair and the other keyed for plaster. The slabs, according to the maker, were made of plaster with cocoanut fibre, cork dust and reeds embedded therein, and running horizontally along the whole length. There were from 30 to 40 reeds in each slab. The slabs were set in mortar composed of two parts plaster of Paris, one part of lime and two parts of sand, and the vertical joints were grouted in with the same material.

The inside of the partition was plastered in two coats, the ordinary materials being mixed with plaster of Paris, and the outside was skimmed over with one coat of lime, putty and plaster of Paris in equal proportions. The testee desired a test of one hour and a quarter with a maximum temperature of 2,000 degs Fahr.

The result of the test is thus recorded :—The setting coat on the fire side of the partition fell during the application of heat A portion of the rendering on the fire side fell on the application of water. The fire did not pass through the partition. No effects of the fire were apparent on the passage side of the partition, except two blisters and some hair cracks following the courses of the joints. The temperature on the outside face of the partition at no time exceeded 125 degs. Fahr The plastering in the inner face of the partition was cracked and disintegrated.

On examination after the test the face of the slabs next the fire was disintegrated to a depth of about ¾ of an inch, the remainder of the slabs being unaffected. This partition then may be classed as a fire stop for at least 75 minutes.

I now come to a very interesting series of tests with doors of various constructions and various materials. The committee were led to undertake this series with the view of ascertaining the length of time a door required under Section 74 of the London Building Act would act as a fire stop. The section runs, "Provided that there may be constructed in the walls of such staircases and passages such doorways as are necessary for communication between the different parts of the building, and there may be formed in any walls of such building openings fitted with fire-resisting doors." On turning to the schedule of materials deemed to be fire-resisting, we find in the case of doors oak or teak or other hard timber not less than 2 inches thick.

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* Read before the Society of Architects on April 25 by Mr. Ellis Marsland, hon. secretary, Society of Architects.

For the purposes of comparison it became necessary to first of all ascertain the resistance of any ordinary deal door and then of a solid 2-inch door of the same material. These tests are made more interesting as the committee were enabled to take photographic records of the outside of the several doors during the progress of the tests. You will find upon the screen at the side a tabulated result of these tests, as also a photographic diagram showing the condition of the various doors at intervals, in most cases of 5 minutes, taken during the tests.

The first of the tests is that of an ordinary 1-inch ledged door and a 2-inch four-panel moulded both sides door, with panels ⅝ inch in thickness; they were fitted, as may be seen in the view, into the recessed wall, built about 14 inches back across the hut, one side of the door being in the chamber and the other side exposed to the external air. This arrangement was identical for all the tests, so that a separate description of the size and position of each door will be unnecessary. The next view shows the doors in position at the commencement of the test before the gas was lighted. The next shows the condition of the doors after the gas had been lighted 19 minutes and the next at 25 minutes, when the doors were practically destroyed.

Following upon this are two 2-inch bead butt both sides doors, with 2-inch solid panels. One was of deal and the other pitch pine. The first slide shows a view of the doors at the commencement of the test, and the doors of this set which are to follow were identical in construction, so that having seen this one it will be unnecessary to give other views of the doors before the test was begun. The left-hand door is the pitch-pine one and the right hand the deal. In 17 minutes flame appeared over the top of the deal door and in 20 minutes over the top of the pitch-pine one. The view now upon the screen shows the condition of the door after 30 minutes, and the next view after 55 minutes, when the doors were mostly consumed.

We now come to the hard-wood doors which are to be the fire stop, and this view shows a 2-inch door as previously described of American oak, and one of Moulmein teak. After 30 minutes' test the condition on the outside was thus:—The fire came over the top of the teak door in seven minutes, but it did not appear over the top of the oak one for 35 minutes; in 55 minutes the doors were practically destroyed. It should be pointed out that it is very desirable that the doors should fit as closely as practicable; the reason for the flame coming over the top of the teak door so soon was in consequence of it not fitting closely to the frame. Another teak door of similar construction, but somewhat thinner, and with the panels in two thicknesses, will appear later on, when the first appearance of flame was after 18 minutes.

The next two doors are of Austrian oak and American walnut; the flame did not come over the top of the oak door till 33 minutes after the fire was started, but in the walnut door flame appeared at intervals after 15 minutes. The view shows the condition of the doors after 30 minutes, and the next view after 50 minutes, when, as you see, the oak door had had the worst of it.

The last doors tested in this series were of Honduras mahogany and poplar. The fire came over the top of the poplar door in 3 minutes, and over the top of the mahogany one in 10 minutes. The condition of the doors after 30 minutes was thus:—The poplar door, as will be seen, has all the upper part consumed. It had all disappeared in 40 minutes, and a temporary door had to be fixed in its place to continue the test of the mahogany door, which collapsed at 50 minutes.

It will be observed that these two doors did not stand so well as the deal and pitch-pine ones, although in justice to the poplar door it had somewhat warped away from the frame at the top and greatly facilitated the flame coming over and its consequent rapid consumption.

The committee's experience with this series of doors led them to experiment with doors made of material in three thicknesses, and two doors were made, one of deal and the other of pine. The material was in three thicknesses, the two outer faces being vertical and the inner one horizontal. The boards were in about 6-inch widths and securely nailed together with 3-inch clasp nails and clinched on the outside; the total thickness was 2⅝ inches. Each door was hung with one pair of strap hinges 2 feet 6 inches long into brick rebates, and before the doors were put in position the rebates were screeded so that the doors should fit as close to the rebates as possible. These doors stood a longer test than the former series, as will be seen by their condition after 55 minutes. Flame was not seen through the pine door till 60 minutes, although in the deal door flame came through in 39 minutes. The destruction of the doors was very rapid after the fire came through, and at 65 minutes the test was concluded. The iron was the ruin of the doors, as on the nails and bolts becoming red-hot they charred the timber around them and allowed the fire to come through.

This led the committee to test three doors of similar construction to the last, *i.e.* in three thicknesses, but the thicknesses were secured together by ⅜-inch double wedge-shaped pins, driven in from both sides, instead of clasp nails. These doors had frames, and the frames were splay rebated. The three doors were respectively of deal, teak and oak. The test with these doors gave the best results of any of the previously tested fire-resisting doors.

The deal door of this construction was tested against a four-panelled teak door, with the result that at the end of 60 minutes the teak door was almost consumed, but the deal door was practically intact as a fire stop, and at 65 minutes presented this appearance, while the teak door was all gone. The oak and teak doors of the same construction as the deal door presented this appearance at 60 minutes, and at 75 minutes were still in position, the teak one being the better of the two.

This ends the series of tests with fire-resisting doors, and we come now to a comparative test with an iron door meeting the requirements of the Building Act under Section 77 and a door constructed of wood and encased with tinned steel sheets, lock jointed and screw nailed; the construction of the doors can be seen by the view now upon the screen. The test was to be one hour, and the summary of effects is as follows:—

The wood door covered with tinned steel plates remained in position, but was much buckled and bulged, and the upper part gradually inclined inwards to a considerable extent, permitting the passage of flame. The first spurt of flame over the top of the door was seen after 5 minutes. The iron-framed and panelled door remained in position, but became red-hot, buckled and warped considerably, together with its rebated frame. The upper corner on the lock side gradually inclined inwards to a considerable extent, permitting the passage of flame. The first spurt of flame between door and frame was seen after 20 minutes. Notwithstanding that the iron door buckled, I am of opinion it is the best fireproof door at present in use, but to be effective it requires three hinges and three bolts, and the tendency to buckle is thus hindered.

I recently at a big fire had the opportunity of observing the behaviour of a pair of doors fastened with three bolts, and the result was the building on the fire side was entirely destroyed, and the iron doors prevented it spreading to the adjoining section.

Under the fourth head of my subject I now come to protective coverings to windows or forms of glazing which in themselves resist at least for some time the action of fire.

For purposes of comparison the committee instituted a test to arrive at the time the ordinary methods of glazing succumb to the action of fire. Three casements of teak were set up in a hut upon a dwarf wall; one casement was glazed with lead lights, one with ¼-inch thick plate glass, and one with 32-oz. sheet glass. Within six minutes flame burst through the 32-oz. sheet glass casement, and half the sheet had fallen. The other half fell within 12½ minutes. Within 7 minutes the lead glazing had collapsed. Within 12 minutes flame burst through the ¼-inch plate casement, and within 14 minutes the whole sheet had fallen. The highest temperature was about 1,500 degs. Fahr.

The committee had submitted for test three teak casements similar to the last, but glazed with copper electro glazed sheets of prismatic glass in 4-inch squares and 3/16-inch thick. The testee desired a 30 minutes' test with a temperature gradually raised to 1,000 degs. Fahr. Water was to be turned on to the outside of the glass for a period of 2 minutes at the expiration of 15 minutes, and at the expiration of a further period of 15 minutes water was to be applied on the inside for 3 minutes.

The result of the test is thus recorded:—After 12 minutes the whole of the glazing commenced to bulge inwards to the extent of 1 inch, 1½ inch and 2⅛ inches respectively. After 21 minutes the top portion of the centre casement sagged and left a space between the glazing and the teak frame; 317 squares out of a total of 324 withstood the action of the fire and water and except for stars and cracks, the remaining seven squares were broken and had pieces out.

A further test on the same lines was undertaken with the difference that the glazing was with small sheets of plate glass 4 inches by 4 inches by 3/16-inch thick, copper electro glazed. This test was to be for 45 minutes, with a temperature of 1,300 degs. Water was to be applied for 2 minutes on the outside at the expiration of 20 minutes, and for 2 minutes on the inside at the expiration of the following 25 minutes. The glass in the casements after the first application of water was not displaced. In 35 minutes the glass in the north casement fell inwards and in 36 minutes the same happened to the centre one, but that in the south casement remained in position till the end of the test, although damaged at the top.

Another test on the same lines in which the casements were glazed with rolled plate wired glass ¼-inch thick. The testee desired 45 minutes' test, water was to be applied after 30 minutes for 1 minute on the outside, and again at the expiration of the test. The record result is that in 28 minutes the outside of the teak casements took fire. In 30 minutes the glass in the centre casement began to buckle and let the flames through. In 34, 37, and 49 minutes respectively the glass in the three casements began to bend either outwards or inwards, and at the conclusion the glass in the three casements was unbroken, but fused and doubled up into various shapes. This series of tests shows that at least for a time glass may assist as a fire stop.

Skylights glazed with copper electro glazed squares of prismatic glass and also wired glass were also tested each for 30 minutes; the fire did not pass through the latter.

It is very desirable in light courts and in narrow streets that ordinary windows should on an emergency receive some protection, and a blind of some incombustible material readily drawn across would in many instances prevent the rapid spread of fire from window to window. A test was submitted on these lines, the blinds being composed of asbestos cloth fixed on rollers with the necessary gearing to keep them in position.

The object of the test was to record the protection against fire afforded respectively to a door and window. The test was to last 30 minutes. The fire was to be 3 feet from the face of the blinds, and the temperature was not to exceed 1,600 degs. Fahr. The record of the effect was that the blinds after 30 minutes' test remained in position, the fire not having come through the door or window. The photographs show the condition of things on the outside at the conclusion of the test, and also the condition of the face of the door and window on the fire side. This test is very satisfactory, and indicates that further experiments in the direction of outside protection to windows against fire is desirable, as in a large number of instances, especially as may be mentioned in the Jewin Street fire, the conflagration was greatly assisted by the want of some such protection.

Another means which might perhaps be of use in theatres or places where a permanent curtain is required was submitted for test. It is described as a "screen sail" curtain, and consisted of woollen material woven of treble-laid coarse-spun worsted 5 yards to the inch. On one side the sail had a band of very close-woven flannel, 8 inches wide, sewn on horizontally. On the opposite side was stitched a band of hard-woven West of England cloth, fastened on slack, so that by cross-stitching vertically it formed a series of pockets in which sponges were placed. These pockets were to catch water thrown on to the sail by a fire-hose, or whatever water might trickle down from a perforated hose pipe attached to the upper edge of the sail. The photograph will be sufficiently explanatory. The curtain, after 30 minutes' test, remained in position, and was in the condition shown in the photograph.

THE GLASGOW EXHIBITION.

The following criticism on the Exhibition buildings appears in the *Glasgow Herald*, to which it was contributed by a Glasgow architect:—

The first appearance of the Exhibition buildings, from whatever point of view they are approached, is extremely effective. Picturesque to a degree is the combination of dome, towers and pinnacles, with the long line of arcaded wall to serve as base, especially when the whole is seen under bright sunshine, with its attendant play of light and shade, and this charm of the picturesque rather grows upon the spectator than otherwise as the various minor buildings scattered through the grounds come under view. Such will be the effect, the all-sufficing and, as far as it goes, the entirely satisfactory effect upon the vast majority of the crowds who will throng these courts and gardens during the coming summer. Here, indeed, architecture asserts itself right royally as a pleasure-giving art, and it is vastly to the credit of Mr. Miller and his coadjutors that for the time being they have added a much-needed note of gaiety to our usually sombre surroundings—have produced an effect, or rather a series of effects, such as to cause the man in the street, with his attendant womankind in their thousands, to turn their heads and clap their hands as over a burst of military music or a shower of sky-rockets. From this point of view the buildings have already received, and will still more receive, the attention they deserve. Popular descriptions, with views from every conceivable point, will fill the columns of the Press, daily and weekly.

But as works of architecture they offer themselves, and merit more serious criticism, and such, within the limits permitted, the present article is intended to furnish. In the all-important matter of plan, and in the first place, as regards the distribution of the various buildings throughout the grounds, it is regrettable that more attention has not been paid to the symmetrical arrangement of these on main axial lines. The irregular nature of the ground to be dealt with no doubt rendered this difficult of achievement, and the fact that the number and importance of the minor buildings were not anticipated when the scheme was first set afoot must also be taken into account. Still the fact remains that the general effect is rather that of a jumble, picturesque undoubtedly, but not comparable with the grandiose impression produced by long vistas of buildings, culminating in a central dome or other important feature, such as has characterised previous exhibitions elsewhere, and not less notably Glasgow's rival across the Atlantic, the Pan-American Exhibition being held in Buffalo this summer. At this last also, it may be remarked in passing, a very fine effect is produced by treating the sports ground after the fashion of the Roman Stadium, with a monumental entrance at one end and pillared portico extending right round and above the highest row of seats encircling the elliptical arena, an opportunity which has been neglected in our own show.

To return to the question of plan. The same defect, it must be observed, which characterises the arrangement of the buildings outside is again present in that of the interior exhibits, particularly in the Industrial Hall. Probably for this the architect is not to blame. It must be supposed that a simple area, walls and a roof with as few encumbering supports as possible, was what the executive and the management most desired; it was at least what Mr. Miller gave them in his competition plan in contrast to most of the other designs. The space thus provided has been distributed so as to accommodate the greatest number of exhibits, but with the minimum of architectural effect. The result is that of the crowded alley (with no sky-line to give it picturesqueness), as compared with the stately thoroughfare; one looks in vain for the fine and imposing vistas of the '88 Exhibition, or, on a larger scale, those of the Paris Exposition of last year. The defect is also partly due to the light steel construction, good enough from an engineering point of view, no doubt, but with no attempt whatever at architectural character. Certainly it is only in the Grand Avenue, where timber arches are employed, that this desirable effect of vista has been secured, while even here it has been a good deal obscured by placing a row of stalls over 20 feet wide down the centre, as well as narrower ones against the walls on either side, thus dividing the space into two narrow "streets" The plan of the Machinery Hall, with its galleries entered on the level from the bridge across Dumbarton Road, is admirable, and could not be improved upon; but here, again, the metal-work is devoid of the interest of beauty, and one sighs for the combination of constructive and decorative skill which constituted the steel-girder construction of the roofs, staircase and galleries of the Grand Palais in Paris, an example of twentieth-century architecture of the first order. The importance of money in this connection must not, however, be forgotten. Such matters as plan and construction are, after all, of minor importance in buildings of this nature compared with external effect, and in this respect they may be said to be entirely successful.

Two distinct styles have been adopted by Mr. Miller on which to work out his designs—Spanish Renaissance, very strongly influenced as it was by the Moorish architecture which preceded it in that country, and Venetian Gothic. The former is made use of especially in the Industrial and Machinery Halls, the latter in the Concert Hall and restaurants, with, however, in these last a not very judicious or well-thought-out attempt to blend the two. There is indeed a little too much of the stock pattern about the work throughout, one of the dangers incident to stucco architecture, the same details and ornaments being found repeated in many situations on the various buildings, even though out of scale and harmony with their surroundings. Whether this is due to lack of pains on the architect's part to design new forms or lack of funds on that of the executive wherewith to pay for the modelling of them, it is not in the province of the critic to determine. Of the various buildings the attention is naturally first drawn to the Industrial Hall, and there is arrested primarily by its principal feature, or group of features, for the composition embraces at once the open peristyle to the park with its central pavilion and the enclosed forecourt beyond, together with the great dome, the angle towers which support it and the spreading platform which unites them. The conception here is of the highest order, instinct with a fine imagination, and the working out is in nearly all respects equal to the idea. The sole point to which exception might be taken is the upper portion of the main towers which seems to lack suavity and grace in outline. In general, however, the whole of this portion has been very carefully studied with a result upon which the architect himself and the city of Glasgow may well be congratulated. Unfortunately the remaining portions of this building, and still more the others scattered through the grounds, cannot be said to approach this high standard. The strongly projecting coves over the recessed balconies in the corner pavilions seem heavy and out of scale, while the little square windows with their green outside shutters along the whole length of the three façades are simply irritating in their meaningless repetition. Even in a show building windows should be regarded as apertures for admitting light, not as surface ornaments. In the two huge restaurants on the slopes of Gilmorehill, clever and effective as they are in general mass and outline, the details are at once poor in conception and coarse to a degree. With this even the inexpert observer cannot but be struck if he compares them with the Van Houten building opposite. Designed by Mr. A. N. Prentice somewhat after the manner of an old English manor-house, though very freely and characteristically treated in harmony with its function and manner of construction, it is especially notable for the refinement and care with which its details have been worked out, and is quite the best piece of architecture among the minor buildings. Mr. Miller, of course, had an immense field to cover, but if unable to devote time to the details of such buildings as these he would have been well advised to adopt the principle of collaboration, invariably resorted to in works of this character abroad. An additional advantage would have resulted in a greater variety and freshness of treatment in the individual buildings, such as already instanced in the Van Houten pavilion.

The entrance front of the Concert Hall is even more open to stricture than the restaurants. One does not look for, or even desire, purity of style in such work, but angle pavilions of Venetian Gothic, a central doorway and balcony Italian in scheme (though certainly not in proportions), with connecting wings closely based in design on the loggia of a Spanish "patio," if the combination is to be successful, require more care and skill in the blending than have been bestowed in the present instance. The hall itself is admirably arranged, and effective as a work of architecture externally, and more especially internally, although the latter has not been improved by the colour decoration, particularly in the interminable repetition of shields with the same armorial bearings "picked out" in gold and colours on the balcony front. The internal colour decoration throughout the various buildings, and more especially the lack of it, forms indeed one of the least satisfactory features of the scheme. Where work of this class has been attempted, it must be supposed, in charity to the architect—though none the less to his blame—that the various contractors employed were left pretty much with a free hand: witness the extraordinary attempt at decoration of the half dome over the main entrance from Sandyford Street. Nor can the results with the main dome, on a much more ambitious scale, and designed and carried out by Messrs. Dall & Neave, be considered altogether successful. The individual figures are good, some of them particularly so, but the scheme is not sufficiently large or dignified for such a situation and the vast scale, and the colour is thin and not particularly harmonious. On the other hand, great opportunities for effective colour treatment have been thrown away. Particularly is this the case in the main arches leading into the space under the dome, and from the Industrial Hall to the Grand Avenue. Pure white is effective enough in the open with the surrounding colours of nature and the play of sunlight and shadow to set it off, but in the interior, with a diffused light from the roof, it looks thin and unfinished, like the walls of a boiler-shed or factory. By contrast, the sculpture work throughout the Exhibition is worthy of the highest praise. In this, Mr. Albert Hodge, with his assistant modellers, Messrs. Holmes & Jackson, has rendered the architect yeoman service. The modelled ornament throughout has spontaneity and grace which are delightful, and would be more so were there more variety and less repetition. It is too early yet to judge of the monumental statue of the King under the dome, but the great groups in high relief which occupy the pendentives are marvellously fine and vigorous for so young a sculptor, while the winged figure over the dome, in composition and movement, puts to shame her more attenuated sisters in bronze on the pinnacles of the adjacent Art Gallery. In this instance that repetition which is the result of economy again furnishes ground of complaint. The figure that is designed for and looks right on the dizzy altitude of the lantern over the dome cannot be equally satisfactory, even with wings clipped for the lesser flight, when placed so near to the ground as the centre of the peristyle, and the effect is still further hurt and cheapened when the figure is three times repeated on the same front.

It has not been possible within the limits of the present article to deal with the most important of the independent buildings. The Russian group, designed by M. Schektel, of Moscow, is in particular worthy of the closest study, both in design and decoration; the Canadian Pavilion, by Messrs. Walker & Ramsay, of our own city; the "Sunlight" Cottages, the Agricultural Building (again by Mr. Miller), afford, together with many stalls scattered through the interior of the Industrial Hall and the Grand Avenue, interesting subjects for comment and criticism, and may be dealt with again. The Art Galleries Building it would, of course, be an impertinence to criticise at the tail of its ephemeral neighbours. It may, however, be trusted to await a maturer judgment.

THE PALACE OF MINOS.

ONLY a few months ago Minos—as the representative of a Cretan monarchy—was as mythical as the Minotaur with whom he is associated; now, thanks to the discoveries of Mr. Evans and the other Oxford explorers, says a correspondent of the *Scotsman*, his existence, or that of a great Cretan dynasty at any rate, is as certain as that of Alexander the Great. And that the dynasty was a great one, the size and opulence of his royal abode sufficiently shows. Its site is about four miles south-east from the picturesque town of Candia, still surrounded by its Venetian walls, with its streets filled with an equally picturesque throng of inhabitants; swarthy, black-haired Cretans, with red fezzes or head-bands and sashes if they are Moslems, and if they are Christians, dressed in darker colour. All alike speak Greek; Allah is the only non-Greek word used, so we were told. Moors and negroes are also to be seen, and a not unwelcome contrast to the native types, the fresh, clean faces of English soldiers in their khaki uniforms. The road to the Palace passes through the city wall by a long tunnel, and, traversing olive and almond groves, reaches a wide upland valley, with both sides streaked with chalky patches, which run down from Mount Juktar—the grave of Zeus, as Cretan legend told, probably because the outline of the hill as seen from the west forms the profile of a gigantic sleeping face. From the west side of this valley a low flat shoulder projects, encircled by a stream-gorge; on the eastern extremity of this stood the palace. It is by no means a strong position, and, indeed, it is clear that the palace itself was not fortified; it was simply a royal residence, the abode of sovereigns of unquestioned power. It must be confessed that the first view of these, as of all excavations, is disappointing, only trenches running every way through the bare earth can be seen, with trees and then a piece of wall or column; but a closer inspection, aided by some effort of the imagination, does enable one to realise the extent, if not the grandeur, of the palace. First lies a spacious court, some 40 by 50 yards, surrounded by a wall some 5 or 6 feet high still; the projecting lower row of stones provided a kind of bench; two altar bases are evident, and the wide double gates to the south, through which led the main approach to the palace. A similar court lies at the opposite end of the palace. Immediately behind this court ran a long corridor, opening off into a multitude of store-chambers, over twenty in number. All these contained, as many do still, huge jars of brown clay, for storing oil or wine. They are about 4 feet 6 inches high on an average, with a diameter of 2 feet; they are decorated with scrolls, both straight and curved, and other ornaments. Hundreds are still there, and at least a thousand must have been there originally—a great proof of the wealth of the Cretan rulers. Further east lie rooms in great multitude and confusion; here and there a few steps of a staircase remain, but it is impossible to make out any plan. The most interesting rooms are, first, the so-called throne-room—a chamber paved and walled with stone, still standing for 6 or 7 feet; around the wall runs a bench of stone, and on the north side is a seat, once richly carved, of gypsum rock; the oldest throne of Europe, and—experto crede—most comfortable to sit in. Near this room is one to which a staircase descends, probably a bathroom; and secondly, one in which two pillars are yet standing, almost every stone of which is marked with the labrys, or symbol of the double-axe, believed to be closely connected with the worship of Zeus. It is not, however, the only mark on the walls; stars, crosses and tridents also exist; yet it is so much the most prominent that we may well accept Mr. Evans's theory that this palace was the labyrinth of story, labyrinth simply meaning "house of the Labrys;" its vast size and ramifications led to the name being used in a different sense. To the east there is another court. But even more interesting than the palace are the objects found in it, most of which are stored in the newly-opened museum at Candia, which is a disused Turkish barrack. First in order come the fresco-paintings, which, though we are told that their colours have faded since they were first restored to light, are bright and clear enough to show their subjects distinctly. The largest perfect one is that of the cup-bearer, a youth painted of a brick-red hue (probably the colour merely of healthy outdoor life, and not showing a darker race than the Aryan, for all the women are painted white), bearing in both hands a marble vase of a bluish tinge. His dress is greenish in colour; his profile almost purely Greek, and the expression very intelligent and animated. There are remains of other large pictures, though none are perfect; in all the same ruddy colour is given to the skin of the men. Very perfect are the miniatures of the ladies of the Cretan Court; their white complexions prove that their life was one of seclusion; in every case but one they are markedly décolletées, and their arms and bosoms show the same hue. Their dresses are of brilliant colours, mostly pale blue or green, and their hair is curled and frizzed. One, on a larger scale, is depicted with hair dressed in a truly Parisian style, large black eyes and a long, slightly upturned nose, with lips of a deep carmine hue. She wears a bodice of white, shot with vertical stripes of blue and red; a scarf is tied in a knot behind her neck—a fichu, I understand, is the technical term. Many beautiful tall and slender vases, like the one borne by the cup-bearer, have been found; and larger ones of earthenware, with graceful shapes and bold colouring. Of sculptures there are three fine specimens; a lioness's head, with hollows for the jewels which served as eyes, and a spout out through its mouth, showing it was part of a fountain; it is carved of a pinky-white marble, as is also a large shell—a remarkable imitation of a natural object; lastly, the greatest treasure of all, the bull's head, wrought in marble either naturally or artificially salmon-coloured; the boldness and simplicity of its workmanship ranks it with the best specimens of later Greek work; with its half-open mouth and rolling eye, it seems to live. The many seals which have been found show an equal skill in execution; they were evidently used by the royal treasurers to stamp the documents relating to stores and tribute.

The metal-work is very varied in character; most noticeable are a specimen of the double-axe already mentioned, many small bulls (like those found in quantities at Mycenæ in earthenware), in one case a pair drawing a small two-wheeled chariot; they are generally explained to be votive offerings, but one cannot help imagining them to be the toys of the Cretan children; a boat with four rowers and a shielded warrior steering; many swords and daggers, one with a hilt like that of a claymore, and pins of every sort; all these were wrought in bronze, which now has rusted to a greenish colour. Very fine also are two shields of later date, probably about eighth century B.C., one richly embossed with the figure of a helmeted warrior, griffins and a snake. Most valuable, perhaps, are the tablets which contain the writing, now first brought to our sight, and soon, it may be hoped, to be brought to our knowledge, but it cannot well be described. However, it may be mentioned that it is of two kinds, one genuine writing and the other similar to Egyptian hieroglyphics. As only this latter kind has been found in the Italian workings on the south side of the island, where the civilisation is clearly older, it may be inferred that it represents the real Cretan script, and that the specimens found of it in the palace are simply records of tribute paid by the native princes of Crete to the conquering Mycenean invaders who ruled at Knossos. There are also in the museum several of the huge jars named before, and also some coffers, covered with stone lids; some certainly served as coffins. In one we saw the ashes and a bone or two of some dignitary of Crete who left this life, say, 3,500 years ago; for one may fairly date this civilisation as far back as that. One of the newest finds in the palace is that of an Egyptian alabaster vase, which cannot be dated later than the eighteenth dynasty (about 1600 B.C.). Another of the finds of this year's working is a Babylonian cylinder of lapis lazuli, mounted with gold. Thus we see that this ancient realm was in touch with the two greatest contemporary civilisations. If only the tablets can be read we shall learn more of this ancient Power; meanwhile we must rest content with the certainty that there was a great Power in Crete, which criticism had relegated to the mystical, but which the spade of the excavator has restored, and is still restoring, to the realm of fact, as it has done with "Mycenæ rich in gold," and "the lofty city of Troy." If anyone is sceptical still, let him go to Knossos and be convinced, like doubting Thomas, by sight and touch, and he will doubt no more.

THE TRUE PRINCIPLES OF STAGE SCENERY.*

I FANCY it is assumed by most people—say by the general public—that in the setting forth things upon the stage we have all but reached a sort of perfection and can hardly go further. And I must say there are fair grounds for this impression, for certainly in taste, display of decoration, mechanical skill, dresses and expense our theatres cannot be surpassed.

Formerly it was the drama with the display of character and emotions that constituted the attraction of the stage; now the eye has been taken into the partnership, and is as much if not more served than its partner. Of course, if these panoramic and spectacular joys are more acceptable to us, it is idle protesting. But in what I have to say to-day, I am merely dealing with legitimate dramatic interest, not with those great show houses, opera theatres and other temples intended for spectacle display.

And yet with all this luxury here is an extraordinary thing. Everybody must have noticed how the whole of our scenic system seems to be based on a number of primitive shifts and devices, mostly of primitive and elementary kind—so transparent in character as hardly to impose on a child. They are clumsy to a degree, and yet we find them mixed up with the most elaborate and ambitious displays. All this might seem to be the result of a sort of amiable convention concluded between managers and spectators. He saying, "You must accept this as a tree or trees, or a rock, though not very like either." And they cheerfully and good-naturedly agree. I have often thought that certain of these articles, such as the stage rock, which mimics nature so abominably, being a sort of box with painted linen tacked on, might be simulated just as well by a chair with a label marked "a rock."

What can be the reason of this paradox? It is simply this. While all the departments of art, painting, sculpture, architecture, decoration, designing, have their rules, axioms and principles, deduced in regular form from each other, the scenic art has none whatever. All its effects are produced by rule of thumb, hand-to-mouth, happy-go-lucky, or whatever the terms be. In short, it is utterly unscientific, without law or rules. The stage, which professes to be the realm of illusion—the beguiler of our eyes—is in this respect the coarsest and most prosaic of institutions.

I must confess, however, that the only true shred of illusion or romantic unreality left seems to me the old green curtain of Drury Lane. We have, of course, the tableau curtains, which are drawn or put aside in a rather trivial way, like the drawing of bed-curtains. There is also the drop-scene, whose folds always get crumpled and awry. But commend us to the vast and solemn green folds of the old Drury Lane curtain, which as we enter lie before us in mysterious folds, significant of awful things in wait. The very generality of it is enough. As Charles Lamb said, it seems the barrier between the real and unreal worlds. And then, when it descended at the close, floating down it shut out the world of romance, as if it had been some dream.

For some two or three hundred years the whole scenic system has clung to the primitive method of a series of screens—one behind the other, linen stretched on frames—whose genesis is evolved out of the Theatre Royal back drawing-room, when the folding screen of the library is made to do duty. We cannot get rid of this way of shutting out the prosaic world. Of course there is the built-up system, as it is called—a worse abuse—which cumbers and crushes out all dramatic movement and change of place.

Here is our old friend the trap-door. A square hole is cut in the boards, through which a figure is raised, who, when he reaches *terra firma*, steadies himself with difficulty. Yet this is a supernatural visitor, intended to impress us with awful feelings. We would not be thus impressed in the street when passing a tavern by a drayman raising the trap of a cellar with his head in front of a public-house. Of course there are more modern methods which are somewhat of the magic-lantern order, and the clouds of steam, which only suggest that a neighbouring boiler has burst.

What things do we not see as we sit in the stalls and look upwards? There the manager lets us into all the secrets of the *hocus pocus*.

When we have to deal with the blue empyrean of the heavens—the welkin—we go to work something in this way. A number of strips of linen are hung in rows from sticks, like clothes on a clothes line. These are called sky-borders, and are cut in a peculiar arched pattern. They flutter with every breath. People in the stalls see the framework between them. I know, of course, there have been occasionally substituted flat surfaces painted over with clouds, but the effect is but of a mere ceiling. My friend, Professor Herkomer, in his charming performances at Bushey, with infinite pains and ingenuity devised a sort of concave ceiling which was perfect in matter of illusion, but the construction would hardly stand the wear and tear of changing. It also suggested the idea of enclosure, which is fatal to stage effect.

These sky-borders are always supported at their ends by the frames, at the sides or wings, which cross them at right angles; hence there is always an incompatibility which no stage ingenuity can get over—the thing is irreconcilable. For you will see that when the linen of the sky-border encounters this obstacle neither can give way, with the result that the linen is crumpled up in a sort of bundle.

Lately in one of the leading and most important theatres there was a presentment of a baronial hall, most elaborately done, and on which vast pains had been expended. There was a framed and richly-carved roof, the details all conveyed by painting. Yet this roof was no more than a number of larger sheets of linen hung like the sky-borders.

Sometimes we have some magnificent view, say, of Venice—with its bridges and church—a composition of building-up and artistic painting. Yet I have noted in one of the corners—the corner is always difficult to treat—a sort of gap which was filled up by a piece of linen made to hang down, on which was painted a bit of roof, or a window, or anything handy. The bit of linen fluttered from the stage draughts, but it was quite unmeaning, though it answered its purpose, and the crowd accepted it with its usual good-natured credulity.

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* A paper by Mr. Percy Fitzgerald, M.A., F.S.A., read before the applied art section of the Society of Arts.

It would be a large subject, and take more time than we have, to deal with the modern built-up scenery. It is impossible to see what is gained by this, as everything that is portrayed in this constructed form can be equally well portrayed by the agency of painting. No dramatic advantage is conveyed by making people ascend or descend flights of steps, or cross bridges, or enter the porch of a church, as all these operations can be described or suggested.

In this place I am tempted to show, in a small way, how little a scientific principle governs the arrangements of the stage. As we know, it is the fashion now that everyone shall enter or exit through a door which he opens and shuts, sometimes even with a lock-click. The late Mr. Daly used to bring over his doors with him, made solid, as real doors, fitted with bolts that clicked audibly. This was in the true spirit of realism. It may be noted that English stage doors always open within, as in daily life, whereas the French doors open outwardly for effect, so that the actor may secure a dramatic exit, dashing it open. But what boots all this—do we get "any forrader?" In the stage world all that is wanting is that an actor should disappear—should go off the scene. Exit in short. The drama really disclaims such formality. In this view the old system of wings was infinitely more appropriate. The player simply disappeared from view between them. And all the apparatus that we are so fond of in modern comedy, with its invariably foolish servants, lay figures, merely seem superfluous details. It reminds one of a late Lord Derby, who, when asked how he liked his new footman, said :—"I never know whether it is John or Thomas that opens the door."

It may seem paradoxical to say so, but it would seem that the greatest so-called improvement of modern days, namely, the brilliant lighting of the stage, has actually destroyed all scenic illusion.

Originally there were candles with candle snuffers, then oil lamp or floats, then gas (more or less bright), and finally the electric light. Everything now seems bathed in a rich overpowering blaze, scenes and furniture appear to be steeped in light. It is as though an enormous searchlight were directed on the stage. The effect of this on both scenery and players is extraordinary.

First, on the scenery. Many of us can recall the beautiful work of Telbin, Stanfield, and Grieve and Danby, and of Mr. Craven in his earlier days, who I believe was a pupil of Telbin, or at least of his school. Two of these artists became Royal Academicians—a most significant fact, and one which we could not even conceive of in those days. Telbin's landscapes and drop scenes were simply lovely—regular artistic landscapes only enlarged—and were painted in a full round style. The trees seemed to stand out, the columns and temples were rounded. There was a suggestion of Turner. I remember Mr. Dickens at Gad's Hill showing me some fine pictures of Stanfield, which had been used as scenes in the play of "The Lighthouse"; and these he had cut up into small pictures and framed. They were as beautiful and as finished as any cabinet work.

And how did these painters contrive these effects? Simply because the light was low and did not kill their colours. Now in this fierce blaze all half-tones, yellows and other tints disappear and the painters have to paint to suit the conflagration. There is no room for shadows even. Then as to the stage itself, all the boards are brought into view, the very knots and fibres of the wood, and, above all, all the joinings. You will see again and again how a flight of stairs or a monumental chimneypiece is merely laid against the wall, showing us plainly that it had been carried on as a piece of furniture.

How often have we seen at the opening of a drama the pastoral view of the vicarage with its quiet garden, rustic gate and umbrageous trees. The painter has expended immense pains on this elaborate set, and it is greeted with vast applause. Yet how amazing to find all the trees, leaves, grass, bathed in an intense furnace-like light. Everything glitters and sparkles, the walks seem all aglow. Yet this all seems quite correct, though it is like nothing ever seen outside. I would go so far as to say that if a mere unsophisticated rustic were introduced for the first time into a theatre and were shown this picture he would not know what on earth it meant, except that it were "soomthin' vary pratty loike," or "that summit was afoire." Many of our grand set-pieces, such as that in "Herod" with all the columns, would, I suspect, hardly be recognisable for what they profess to be.

Often too we see a grand temple with columns, not grey or blackened or rusted, as we would expect, but all aglow—pinkish or yellow, glittering and sparkling in the blaze.

But a far more serious result of these excessive floods of light is their effect on the figures. There are no shadows at all, light being all round, behind and before them—there is no relief—they seem merged in the background. And though there seems to be no connection between the voice and glittering clothes and adornments, by some mysterious law the utterances seem to lose emphasis. It may be that the spectators' eyes are distracted by the glitter and wander from object to object, just as a person who speaks from a crowd commands less attention than a person speaking when standing alone. There can be no doubt, however, that a stage encumbered with furniture and all sorts of objects to a certain extent muffles the tones of a voice.

Few perhaps know what was the old system of lighting. Indeed, it seems a mystery how the huge patent theatres could be lit by rude oil lamps or candles. Yet in Garrick's time the system was truly dramatic and far more favourable to acting than it is now. Then there were simply four large chandeliers hung over the actors. These furnished a central zone of light within which the actors kept. The rest of the stage was not exactly dark but misty, and the surrounding scenery was much like the indistinct details on a tapestry. What was the result? The figures of the actors stood out in relief like statues, every line in their expressive faces was seen. But then those were the days when acting—and acting alone—was considered to be the principal object of a theatre; all scenes, dresses and other gauds so much leather and prunella.

It is easy, of course, to point, and still easier to make a sort of cheap fun by pointing out all the grotesque makeshifts of actors and the stage. This has been done since the days of Scarron and Molière. We are merely, as I said, seriously taking stock of the existing practice. I freely admit that these things cannot be altered or done in any other way. The difficulties are insuperable. If you bring up an actor through the stage he must come up through a square hole cut in the floor. If you have a sky it must be a stage sky. But then comes the reflection, are these things necessary at all? Or are there other ways of doing them?

I think I have now shown by these illustrations that we are not on the right track—or tack—and that we are rather persistently engaged in thoroughly disillusionising audiences. The only remedy, as it seems to me, is, as I said at the beginning, to try and discover some scientific principles and to work from them. Let us make an attempt to find these principles, however rude, but we must begin at the beginning.

What is the stage? What is our idea of it? The common notion is that it is the floor of a very large chamber, which the spectator looks at from a distance. The entrance to this chamber is an archway, which is the proscenium. All which is a mistake, and is at the root of all the mischief. Of course, if the stage be considered a sort of peep-show, to which you put your eye to see rich and magnificent spectacular shows, there is not a word to be said, and all theatres and scenic effects are then on correct principles. But we are now assuming a stage for acting and the drama. It has often been asked, What has become of the fourth side of this room on the stage, which is always taken away to let us look into it? And though this has been meant as a jest, it really involves a bit of stage philosophy. Some hold, and correctly, that this fourth side is existent or transparent, and that we see into the rooms as Asmodeus did. Others more correctly contend that this side is behind the audience, who are thus supposed to be on the stage and close to the characters.

But the truth is, all this idea of an enclosure or room has nothing to do with it. The stage is an abstract notion, betokening the general ground on which we walk much as a statue stands upon its pedestal. In real life there are no boundaries—the ground stretches away to the right and the left until it meets an artificial barrier, such as a wall or a hedge, but it goes beyond these. You cannot fix a limit save at the horizon, but the stage being rigidly enclosed by five out of its six sides must contrive some artificial boundaries, or you will see the bare walls, while the scenery should be more or less abstract, like the wall behind a basso-relievo. And this stage, in its origin, signifies what it signifies in life, and what it imports in common—a carpenter's platform raised above the ground and not meant to be bounded by any walls or enclosures. This platform happens to be placed under the proscenium arch, and between its columns, though these nowadays stand on the stage itself, a false architectural arrangement, for we see the front of the stage going down to the level of the stalls, and the massive proscenium pillars, often of marble, seems to be supported by a wooden platform. This betrays the original arrangement of a stage erected in the centre, and is supported by the arrangement in vogue only a few years ago, when the stage always projected well forward beyond the curtain, making a sort of stage in advance, or *avant scène* as the French call it, and on which a deal of dramatic action used to take place. This has been abolished, as the managers naturally covet the valuable space for stalls.

This was considered an indispensable arrangement. It used to be called the "apron stage," and in France the *avant scène*. It fills a large space in the grand opera houses, but it will be seen how it supports my theory of a comparatively open stage, as against that of an enclosed chamber. On this apron stage the performer could display his gifts with immense advantage. He was free as air. Indeed, it has always seemed that the figures on this open stage have a far more noble and dignified air—there is room and space above, below and round them—instead of being cribbed and cabined in a vast box. This was the method of the old Greek theatre, also of that at Ammergau, where there was a sort of ambiguous stage, half indoors, half out of doors. The general notion therefore is this, a raised platform brought well forward and placed between the columns of the proscenium arch with some sort of background.

The "boards" indeed—the generic "ground"—are indeed hopeless for treatment. Real ground in general is more or less undulating, is not bounded by anything, and all objects are not laid upon it, but rise out of it. The boards are not to be reconciled with the stiff straight lines of the wings which rest upon them. Instead of softening away the junction we only seem to emphasise them more.

Under such conditions the stage may be taken to be a sort of abstract notion of the ground upon which we all walk, much like the base upon which a statue stands. There the actor could expatiate at will and draw all eyes, and you might give as much scenery as you chose, or as you could, consistently with these conditions. What a change to the present conditions, where he is driven backwards into a deep chamber, where he is hemmed in on all sides with screens—screens above, beside him and behind him—encumbered with blocks of buildings and heavy furniture. And note the very complications that this brings. The walls of this chamber are assumed to keep out of sight the intruding world outside, and then we find ourselves obliged to keep these walls themselves out of sight by this complicated system of screens, sky-borders and the rest.

This notion of boundaries or enclosing sides is further opposed to the general arrangement of real life. There no one thinks of confining barriers—save in the case of a small room—space is free and stretches away to the right and left. On the stage alone are cities, churches, squares, streets, all confined within two walls.

On this sort of stage the actors became detached from the enclosing walls, and stood on debateable ground, half on the stage, half among the audience. The scenery became a sort of background. Sir Squire Bancroft, it will be recollected, when at the Haymarket, enclosed the whole front of the proscenium in a gilt frame, which made the whole like a picture, and cut off the actors altogether from the spectators.

So much for the stage itself. The next important question I shall detain you with is, What is the scene? The author thinks the scenes the number of divisions, the actor the portion in which he figures—"my scene," in fact—the stage manager, of course, the different "sets" he has to get ready. The real scene is none of these things, it is a purely abstract notion and means the centre of action or the zone of action, which is the space round the actors wherever they are. This may seem a little metaphysical, but as Captain Cuttle's friend says, "The bearin' of it lies in the application." I will illustrate it in this way. You know that in photography there is the ordinary background, a dark mass, with the usual curtain or furniture, and which answers to the existing system of scenery—there is a space to be filled in and this the artist does. But there is another fashion, that of the halo. The head is in the centre and the dark background is shadowed or softened off till it is merged in the white. Now applying this to scenery it will limit it to just so much as can be brought into close relation with the performers, will be fitted to their scale and form a halo round them.

The scale of the human figure—that is, of the actor—is a constant one, and of course never varies, but the objects which are placed round it do in an almost absurd way. This question of scale is regularly and ludicrously set at nought and leads to all kinds of confusion. The space in the enclosure is also a constant quantity, the limited area cannot be stretched; yet into it is squeezed all sorts of heterogeneous objects, squares, streets, churches, palaces. This can only be done by reducing their size. Thus a vicarage I before spoke of would be only 4 or 5 feet higher than the vicar. There is a monumental arch through which the procession emerges; yet the arch may be only a foot or two higher than the heads that pass under it.

The system is when a group of these objects is introduced to squeeze them all in, as it were, finding accommodation for them in the limited space, an area of not more than 50 feet square, by reducing their size. Thus we have whole streets, squares, cathedrals, palatial chambers, House of Commons even, all fitted in by reducing their size. On the other hand, small objects are enlarged, and we are shown the interior of a cottage, or a garret, or a lighthouse, which fills the whole stage.

Mr. Herkomer once propounded a highly ingenious remedy for this last state of things, by contriving a sort of expanding and contracting proscenium; when there was a small interior, a sort of screen descended and made the opening sufficiently small. It will be seen what objections could be made to this system. These anomalies prove what I have just stated, that it is impossible to struggle against what was the original conception of the stage, which is a simple platform just adapted to the actual needs of the performers.

What, then, is definition of the scene? The true answer must be, The centre of action, where the performers are, and which is comprised in the zone immediately about them. This is, of course, merely a principle. There should be just so much of the surroundings shown as should be in immediate relation or contact with the performers as is found in real life. In real life, when an exciting incident occurs, in a street or a square, or a church or a palace, the whole street, church or square is not beside the performers, but only a portion of it. I myself have seen, in an exciting melodrama, in which a murder or some act of violence was done in Trafalgar Square, the whole Square and its contents—St. Martin's Church, National Gallery, the Column, the fountains, and even Morley's Hotel—all brought in, but, of course, compressed. The National Gallery was about the size of a soldier's hut. The truth is, all this combination of objects could never be seen at the same moment by the human eye. Now, in real life all would be in a zone, say close to the lion's pedestal or the steps, and this would be all that would come into the field of vision. The rest could be indicated, rather haloed forth, by painting and perspective. And again, no one at an agitating moment takes note of the surroundings. He has only a general notion of what is about him. In one of his essays Charles Lamb, speaking of painting, has this significant remark, "Not all that is to be observed is to be expressed in a picture." Most true it is, and I can illustrate it in this way: not only is this filling up the enclosing chamber with all the objects that would be found in real life superfluous and cumbering, but it is untrue to experience, no one sees these things. Fancy some exciting incident taking place in a large room—a quarrel, an assault, or murder—and that we were witnessing it. What would be our impressions? Would we note the number of windows in the room, what pictures were on the wall or were there any, the colour of the paper or the carpet, number of chairs, and—no, surely. We would carry away a general notion of a room, perhaps that the door was on the right, that there was a table, but little more. And is there not a moral in this view—that if the interest excited by the dramatic situation be sufficiently strong and overpowering we shall not note how the players are dressed, or how magnificent the scene and its appointments are.

In the same passage Charles Lamb seems to expound the true philosophy of the thing. He is speaking of painting, but the principle applies equally well to the stage. He is dealing with Martin's great picture of Belshazzar's Feast, all crowded with palaces and buildings, and the innumerable lords, ladies and courtiers, all seated at the banquet—and all flying and in the confusion of terror at the apparition. None of these things, he says, would be observed in a "day of horror." The eye should see "as the actual eye of an agent or patient in the immediate scene would see, only in masses and indistinction." The great masters got at their true conclusions by not showing the actual appearances, but only what the eye might be supposed to see in the doing or suffering of some portentous action. "Suppose," he goes on, "the moment of the swallowing up of Pompeii. There they were to be seen—houses, columns, architectural properties, men and women at their standing occupations—the thousand postures, attitudes, dresses, all physically visible. But what eye saw them at that eclipsing moment when sight and hearing are a feeling only?" We may apply all this readily to those grand realistic scenes now so fashionable, in which men, women, dresses, furniture and buildings are all crowded together in an enclosed fan too small to hold them. If the drama has a really agitating and tragic interest, we shall not need these adjuncts.

GENERAL.

Mr. G. E. Wade, the sculptor, has just completed a large clay model of the statue of the late Right Hon. Harry Escombe, Jubilee Premier of Natal.

A Mission Church is to be built on some land to the north of St. Margaret's railway station in East Twickenham, in connection with the parish of St. Stephen's, of which Prebendary Johnson is the vicar. The district to be served by the new mission building has a population of 3,000 people.

M. Louis Bonnier, architect to the French Government, has undertaken the duties of architect of the Elysée Palace, in the place of the late M. A. Chancel. M. Bonnier gained great credit as architect-in-chief to the last Paris Exhibition.

Mrs. Woodroffe has offered to present a tower and clock to St. Mary's Church, Oatlands Park, Surrey, in memory of her husband, one of the founders of the church.

Messrs. Thos. W. Aldwinckle & Son announce that on and after the 13th inst. their offices, which are now at 1 Victoria Street, Westminster, will be removed to 20 Denman Street, London Bridge, S.E.

The Worshipful Company of Makers of Playing Cards offer the "H. D. Phillips Prize" of 10*l.* 10*s* for the best special design for the backs of playing cards intended for presentation by the company to its guests at the inauguration banquet of the Master Wardens. Three other prizes of 5*l.* 5*s.*, 3*l.* 3*s.* and 2*l.* 2*s.* respectively are offered by the company for the three next best of such designs. Full particulars as to the conditions of the competition may be obtained on application to Mr. W. Hayes, the clerk of the company, Guildhall, London, E C.

M. Henri Gervex is exhibiting at St. Petersburg his great canvas of *The Coronation of H M. Nicholas II.* The Tzar paid an official visit. On the artist's return to Paris he will start on the picture of the Mayoral Banquet given by the President two months ago.

The Late Mr. Henry Vaughan's Bequests to the National Gallery include a marble statue by Foley and one by Weekes and no fewer than eighty paintings and drawings. The latter are entirely by J. M. W. Turner, whilst the paintings include two Gainsboroughs, two Landseers, two Reynoldses, two by Millais, a Leighton, a Colcott, several Leslies and Constables, and examples of William Etty, John Opie, John Crome and Thomas Stothard.

Mr. Justice Channell, in the case of St. James's Hall Company *v.* London County Council, on Tuesday decided in favour of the company, the effect of the judgment being that the Council had no right to order additional alterations at the hall after the requirements of the old Metropolitan Board had been complied with.

The Delegates of the French trade unions will on Sunday, June 16, and Monday, June 17, pay the return visit arranged at the great international peace demonstration held in the Bourse du Travail, Paris, last autumn. On the first day a demonstration will be held at Shoreditch Town Hall, or some other large building, and on June 17 the delegates will be entertained at a dinner, probably at the Crystal Palace. About forty delegates are expected.

The Manchester (Market Street Area) Improvements Bill, which contemplated a scheme of improvements involving an expenditure estimated by the promoters at about 1,500,000*l.*, and by the opponents at 2,200,000*l.*, was rejected by the committee of the House of Lords, presided over by Viscount Falkland.

Mr. Long, M.P., is preparing a series of model by-laws with respect to new buildings in rural districts, which will deal only with matters most in need of control for purposes of health. The series is intended as a guide to rural district councils wishing to make by-laws on the subject, and will be specially applicable to places consisting of scattered dwellings. It will be competent to a district council in any particular case to propose any modifications and additions which appear to them necessary to meet the circumstances of the locality. The model is only intended by way of suggestion to the rural councils, with whom rests the initiative as to making by-laws.

The French Minister of Commerce has officially announced that all exhibitors who obtained an honourable mention at the Paris Exhibition are to receive only a diploma. The distribution of medals will begin immediately, and will be made according to the numerical order of the classes. Foreign exhibitors are to receive their medals through their general commissioner. The diplomas will be sent subsequently, and "in the same conditions."

The Corporation of Windsor have begun the demolition of seven historic houses which were good examples of the architecture of the reign of Charles I. The houses adjoin the present vicarage of Windsor, which formerly was a residence attached to Windsor Castle. They also adjoin a large piece of waste Crown land which was offered to the Corporation some time ago. Upon this and the site rendered vacant by the demolition of the houses it was proposed to erect a Volunteer drill hall, as a memorial to the late Prince Christian Victor, but the project fell through owing to lack of support. The Corporation having condemned the houses—their own property—as unfit for human habitation, their destruction is being proceeded with, and in a few days one of the most interesting landmarks in Windsor will have disappeared.

The Admiralty having objected to the construction of a fixed bridge across the West Swale, between Sittingbourne and the Isle of Sheppey, the promoters of the South-Eastern and Chatham Railway Bill have withdrawn the clauses in connection with this matter from the Bill which is about to come before the House of Lords committee.

The Kimberley Memorial to the members of the garrison who fell during the siege is to be imitated from the Nereid monument. The work is estimated to cost 8,000*l.* The lower portion of the structure, which is to be 50 feet high, will take the form of a mausoleum, where it is intended that the remains of the victims shall, subject to the consent of relatives or friends, be reinterred. A spiral staircase will extend to the summit, from which, as the memorial is to stand upon a natural eminence, a splendid view will be obtained. It is stated that the exterior will be of Portland stone, prepared and finished in England.

A Triptych by Rubens, on panel, the original sketch for one of the paintings in Antwerp Cathedral, *The Raising of the Cross*, with the two thieves and mounted Roman soldiers forming the left wing, and St. Mary and St. Joseph on the right, was sold for 3,200 guineas (Pottier) at Christie's last Saturday.

The Trustees of the Chantrey Bequest have purchased this year *The Flower Girl*, by Mr. Shannon, A.R A. The sum of 500*l.* has been paid for it.

His Majesty visited the exhibition of the Royal Academy of Arts at Burlington House on Friday last. The King on arrival was received by Sir Edward Poynter, president, and the members of the Council, who conducted His Majesty over the exhibition.

Mr. H. B. Gordon, partner in a firm of Toronto architects has been appointed architectural adviser to the King of Corea, for the erection in his capital of a central headquarters of Presbyterian missions.

A Panel, the tenth of a series intended for the mural decoration of the ambulatory of the Royal Exchange, is now being prepared for the reception of Mr. Frank Brangwyn's picture of "Modern Commerce." This is a companion design to the "Ancient Commerce" of the late Lord Leighton, and is the gift of Mr. Thomas Lane Devitt. The Skinners and Merchant Taylors' Companies have commissioned Mr. Edwin A. Abbey, R.A., to paint a picture commemorating the founding of their annual feast on the eve of St. John's Day, June 24. This will be placed in its niche in the course of the year.

Archæologists and all interested in Welsh ecclesiastical antiquities will regret to hear of a serious mishap which has occurred at the ruined abbey of Basingwerk, near Holywell. The highest point of the ruins was the south wall of the south transept, which contained in its apex a very beautiful triple lancet window. To all appearances the gable looked likely to stand for another century, but a few mornings ago it entirely collapsed, bringing down many hundreds of tons of massive masonry, and in its fall making a clean breach through the walls and lancet-headed windows of the monks' dormitories. Most of the masonry has fallen upon the top and sides of the chapter-house, which is one of the most beautiful portions of the ruin from an architectural standpoint, and unless something is done to clear away this immense mass of débris it is more than probable that the chapter-house walls will give way under the weight. A portion of the west wall of the refectory has also fallen lately.

Mr. Edwin O. Sachs was taken seriously ill on Friday upon leaving the final machinery rehearsal at Covent Garden Theatre. He is now progressing favourably, but will still have to keep his room for a considerable time, and hence be unable to attend the opening of the Opera House, which has seen such changes at his hands.

Owing to the serious indisposition of Mr. Edwin O. Sachs, chairman of the committee, the formal opening of the British Fire Prevention Committee's new testing station at Westbourne Park will be postponed to the end of the month, but the first private test took place this week under the direction of Mr. Ellis Marsland.

Brunswick Chapel, Bromley, which has undergone a thorough renovation under the careful supervision of Mr. G. F. Danby, architect, Leeds, was reopened on the 30th ult. Amongst other alterations and improvements the gallery has been repewed, the floor of the chapel raised 16 inches and also repewed with circular seats.

The Dedication took place on Saturday afternoon of a new chancel in St. Matthew's Established Church, Morningside, Edinburgh, the extension being part of the original building scheme of the church, which now only lacks the erection of a spire to see its architectural completion. Founded in 1883 as an offshoot from the Morningside parish church, the congregation have laboured with loyalty and enthusiasm till now they have built and equipped, at a total cost of 14,000*l*, one of the most beautiful ecclesiastical structures in Edinburgh. The building was dedicated on May 2, 1890. The scheme for the provision of a chancel and an organ cost 2,236*l.* The chancel is of rectangular shape externally, simple in design and in strict harmony with the rest of the building. In the gable is a window of four lancet lights, comprised within a moulded pointed arch, the upper part of which is treated with cusp vesica and quatrefoil openings The roof is vaulted in timber, the walls panelled in oak and the floor laid with richly-coloured marble. The memorial window, presented by four members of the congregation, contains the figures of the four writers of the Gospels.

The Metropolitan Borough Councils are endeavouring to arrange a conference with the London County Council so as to come to some arrangement as to their respective spheres with regard to the Working Classes Act, 1896.

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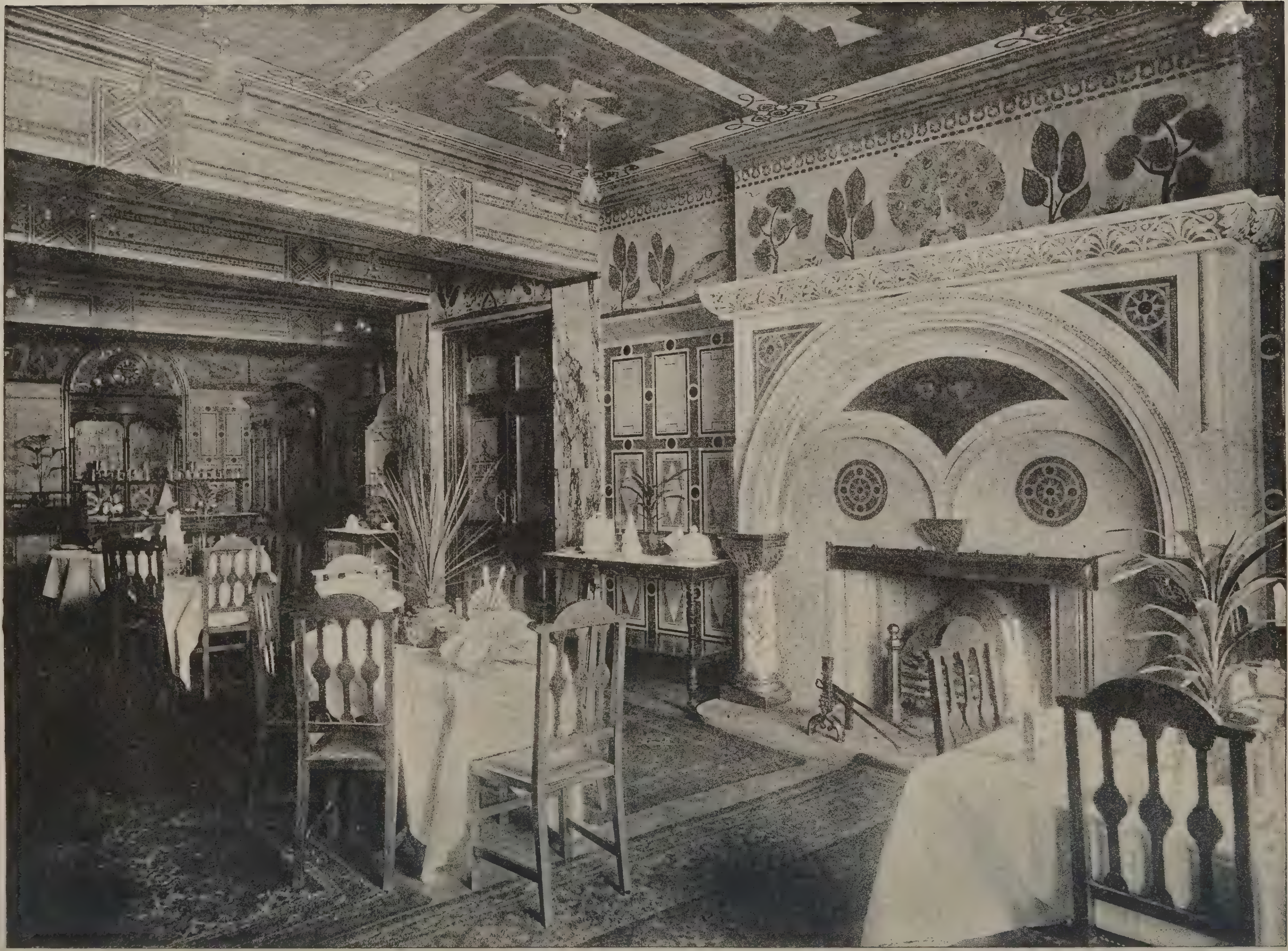

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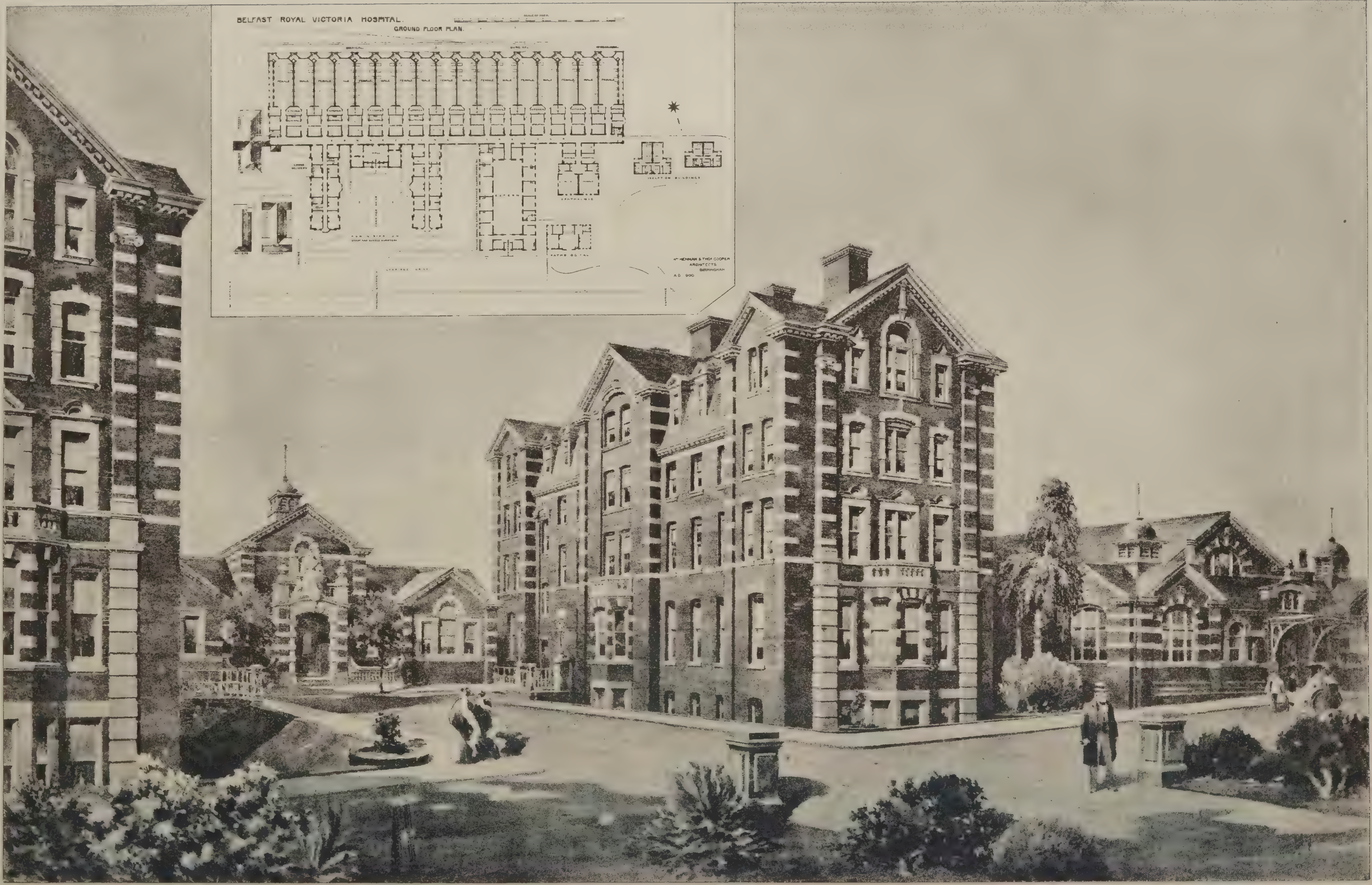

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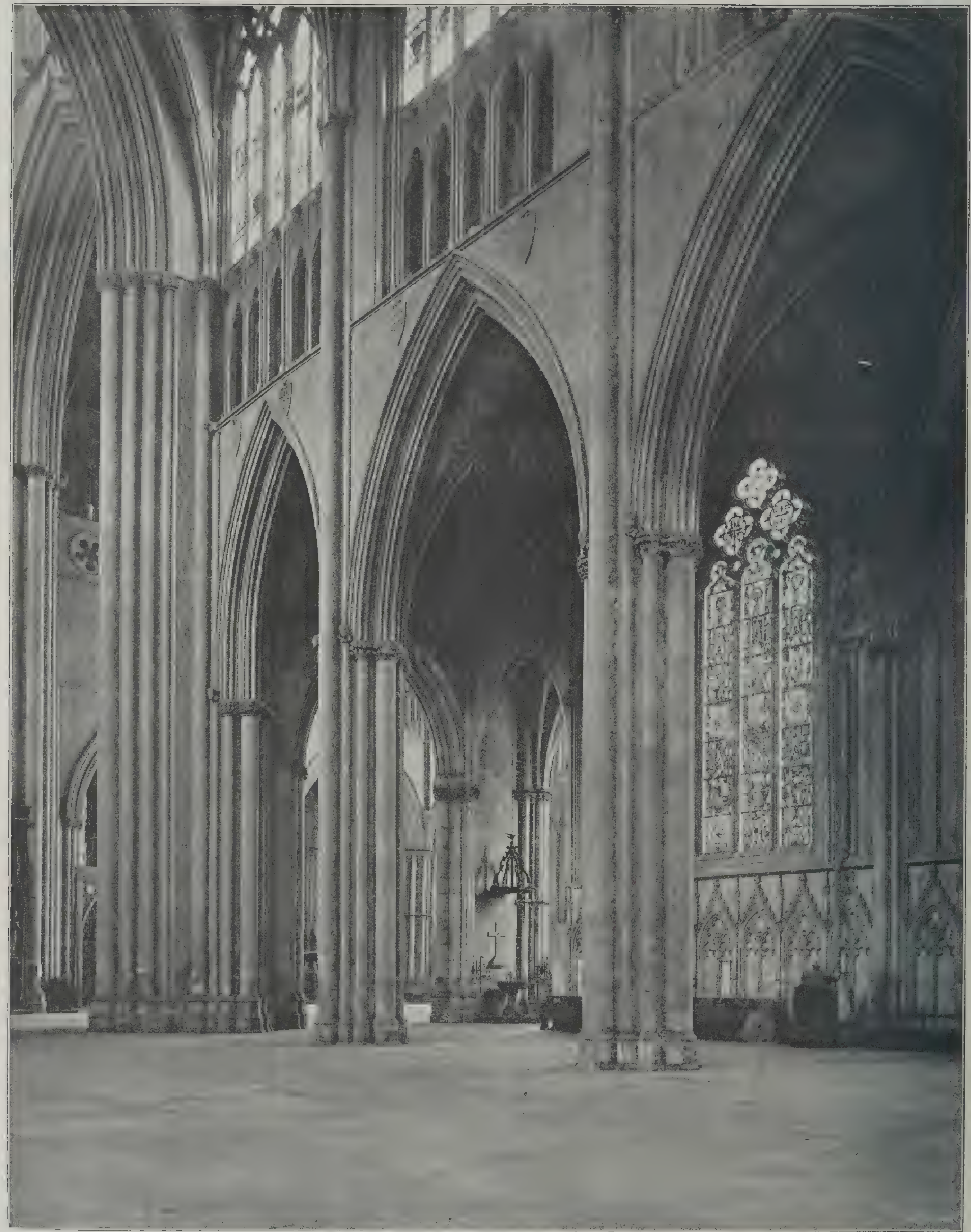

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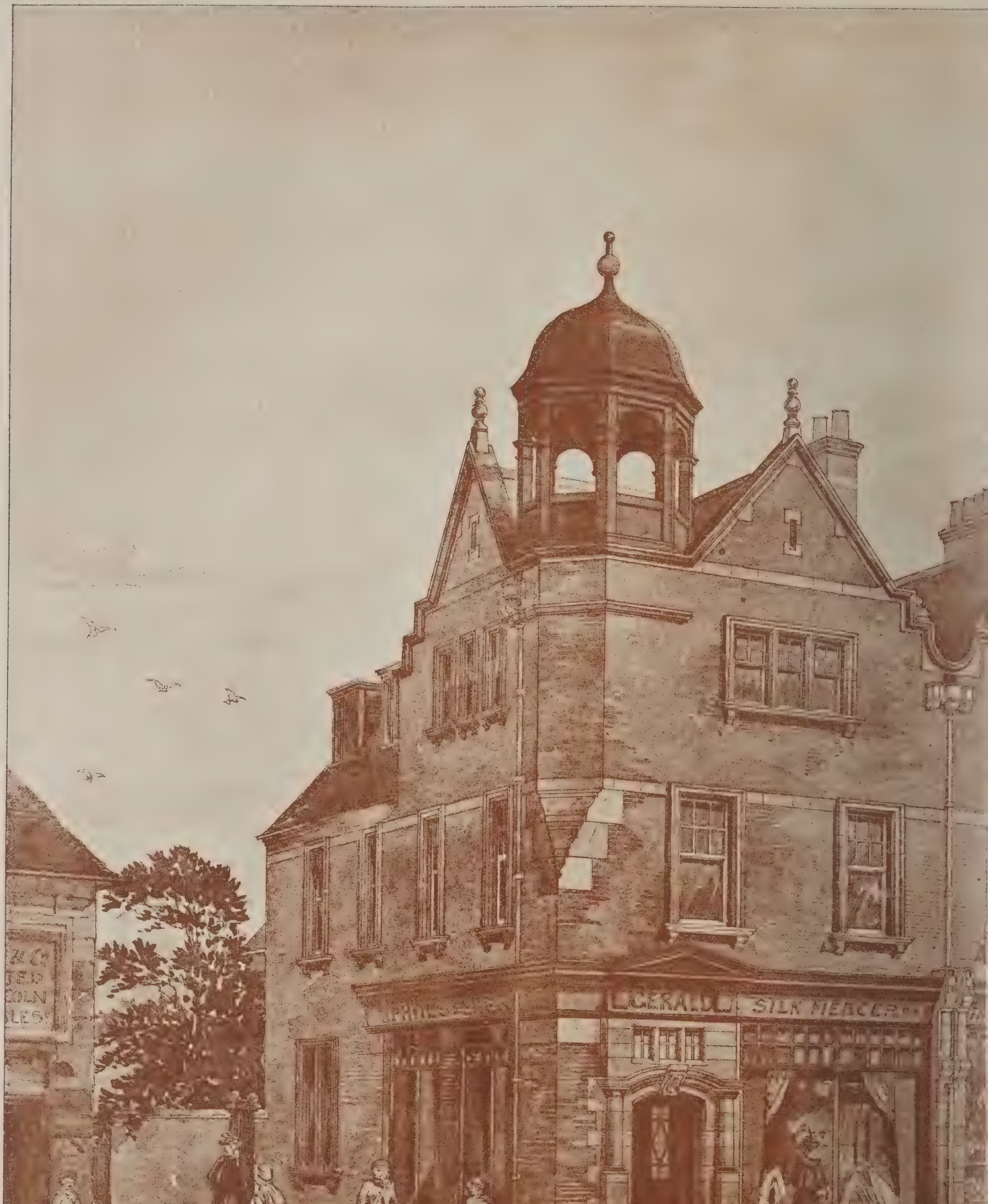

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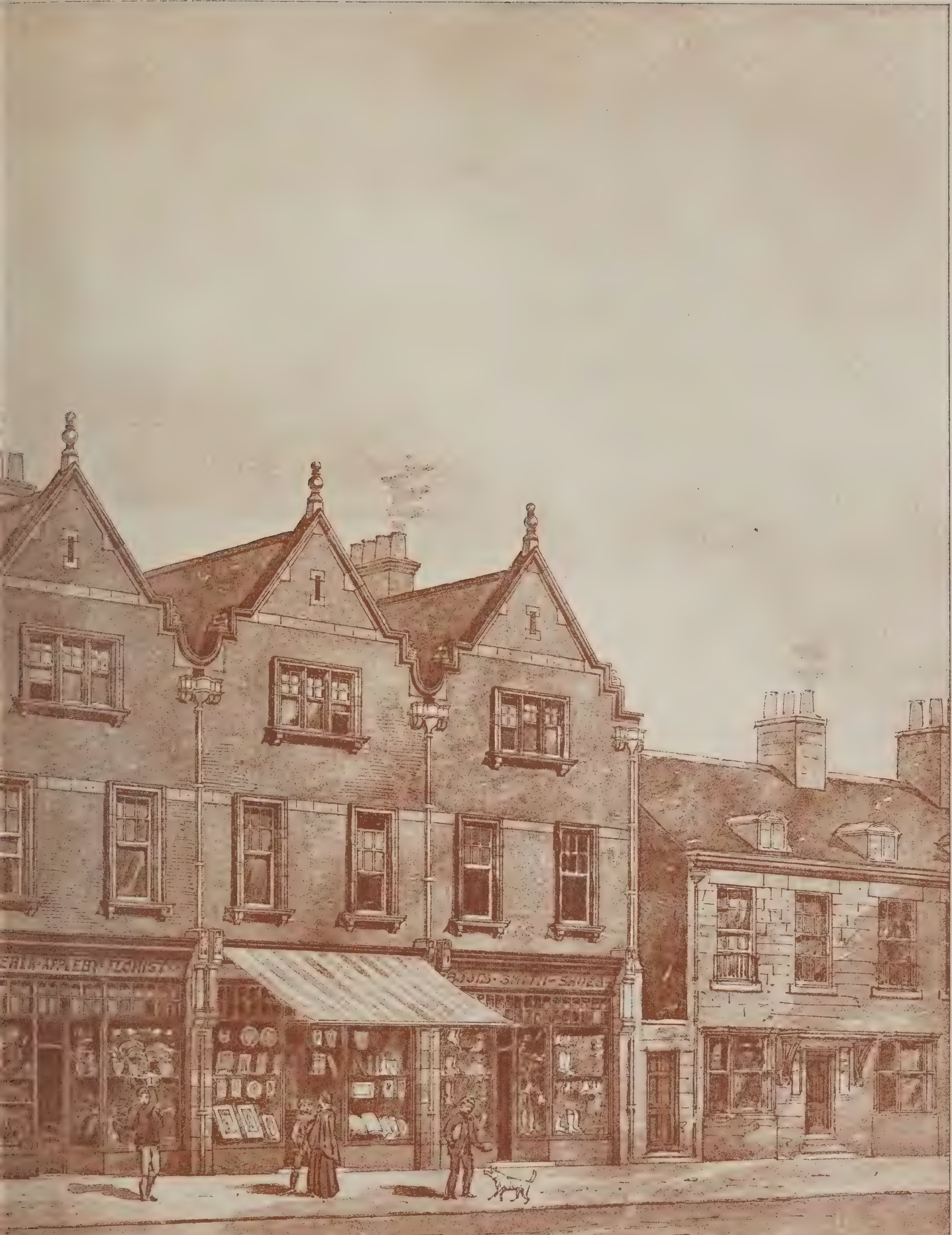

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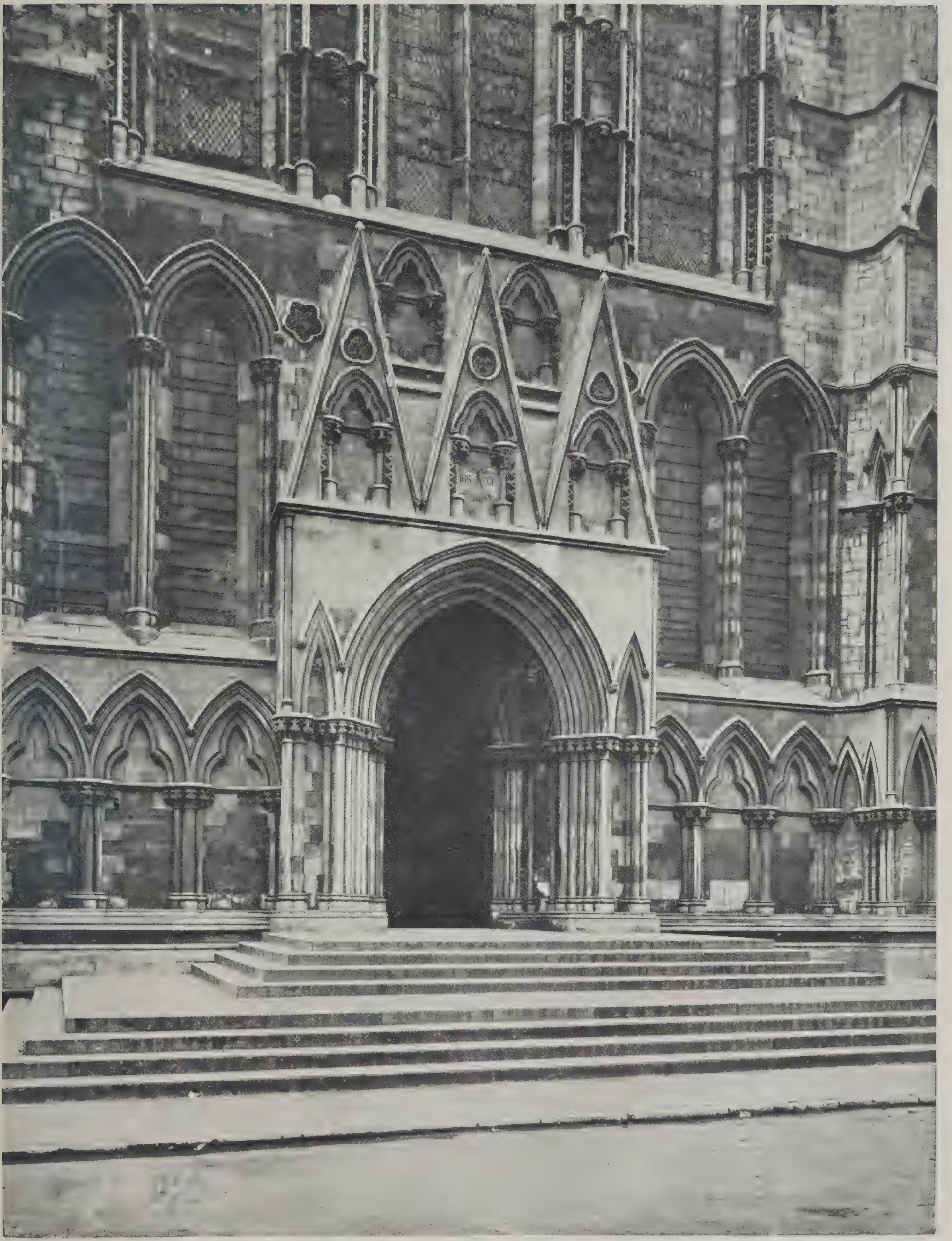

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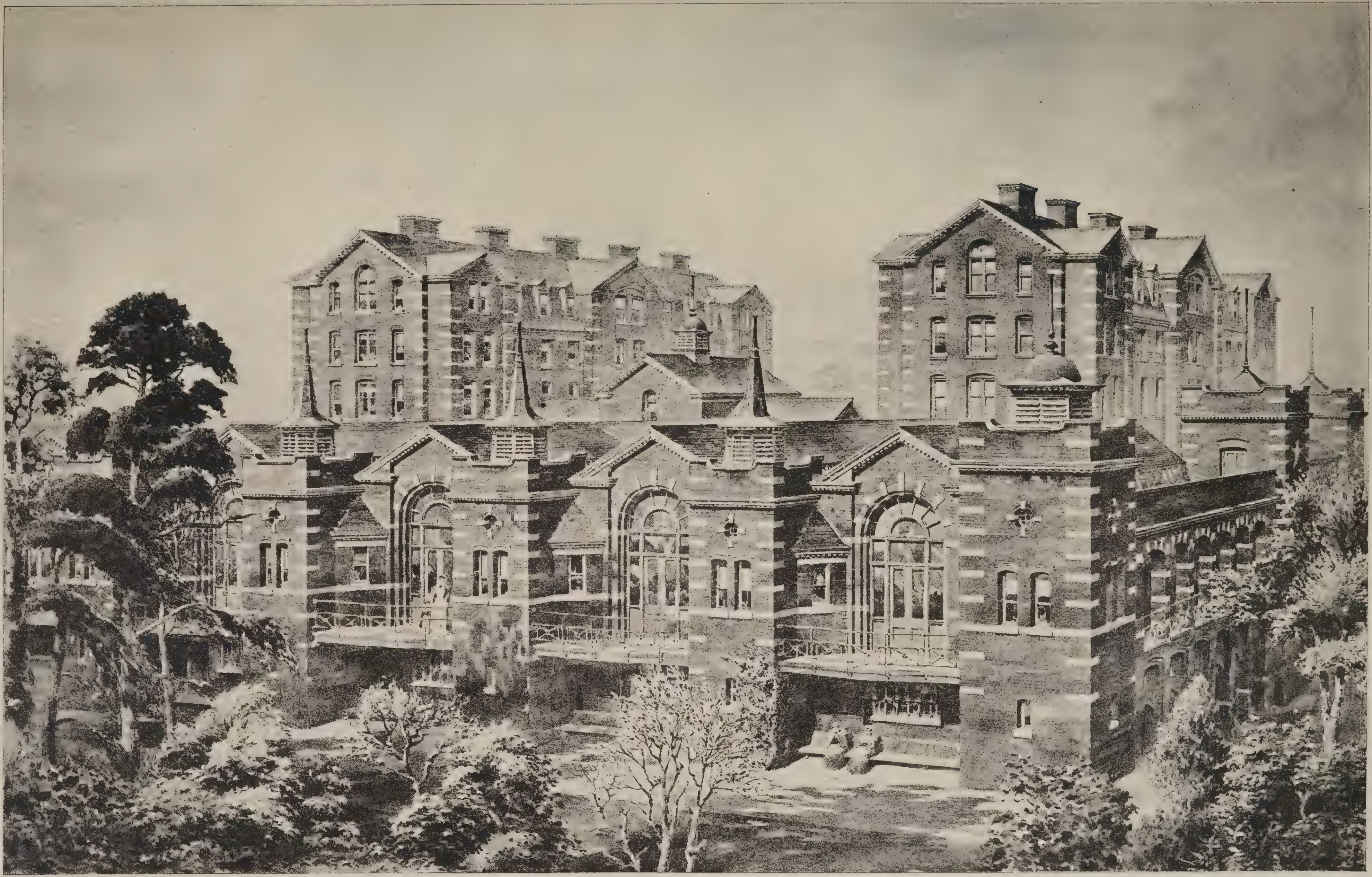

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BELFAST ROYAL VICTORIA HOSPITAL: THE WARDS FROM THE SOUTH-EAST.

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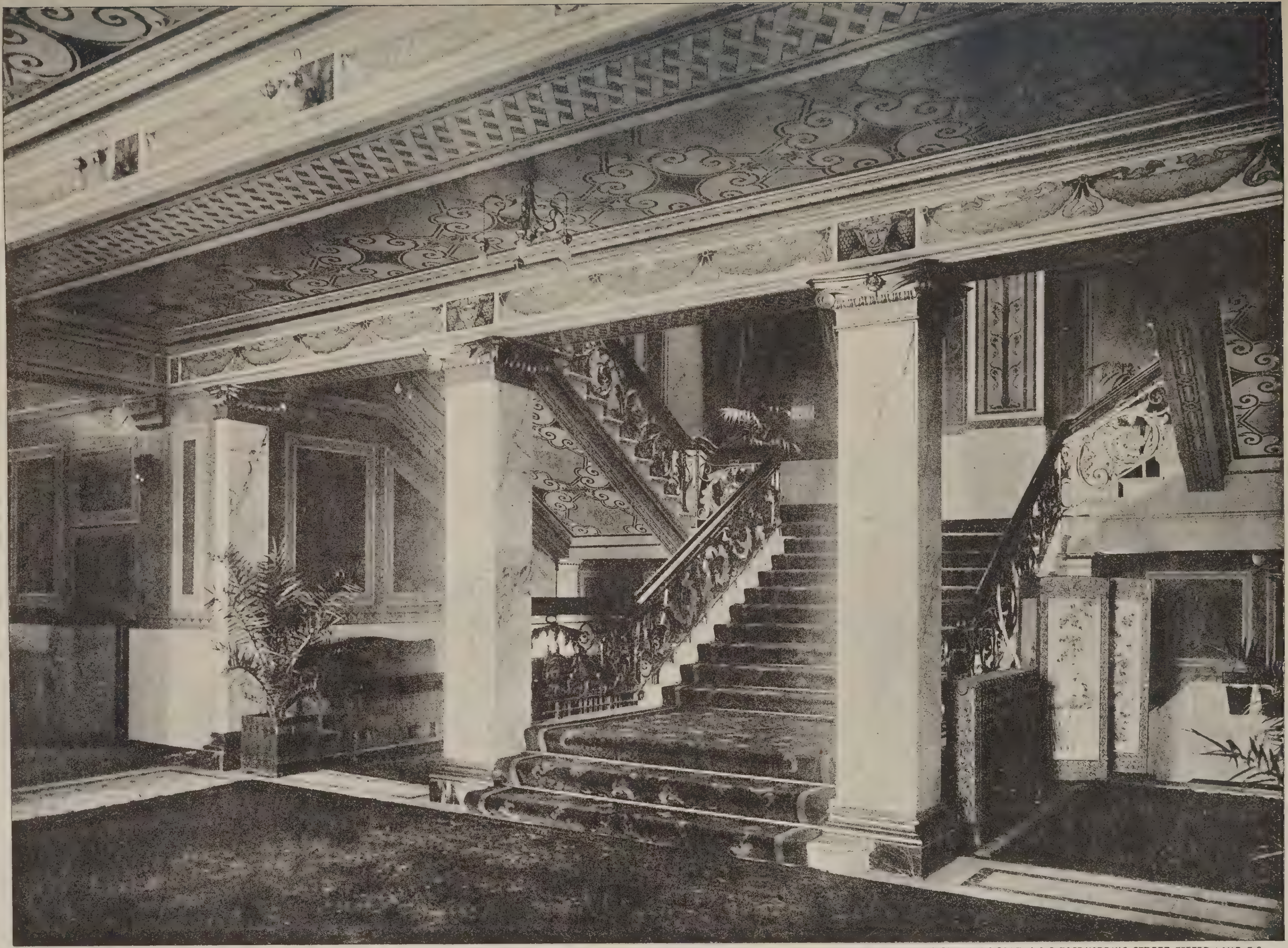

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ROYAL HOTEL, CARDIFF: ENTRANCE HALL.

R A. BRIGGS, Architect.

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The Architect.

THE WEEK.

Among the members who have toiled to revolutionise the character of the Royal Institute of British Architects, not one has been more zealous than Mr. Arthur Cates, whose death on Wednesday we announce with much regret. As far back as 1855 he was struck by articles which appeared in one of the French publications on the necessity of a diploma, and as a consequence a memorial was presented from the Architectural Association praying that an examination of students should be arranged which would afford evidence of qualification, and would eventually serve as the basis for the issue of a diploma which would be accepted as guarantee of the fitness of the holder to practise. It was not, however, till several years had elapsed that Mr. Cates's efforts were crowned with success. He had to bear his share of the disapproval of other members who thought that a change was unnecessary, but he persevered, and although he would be the last to say that the Institute was perfect in its organisation, Mr. Cates had the satisfaction of feeling that he had accomplished alterations that were beneficial to the profession and to the public. His untiring labours are the more remarkable if it is recollected that Mr. Cates was a Government official, and might therefore be supposed to take little interest in anything outside the walls of his office. He held the important appointment of Surveyor to the Woods and Forests, and as such the Regent Street property which Nash had transformed was under his control. After his retirement he became one of the members of the Tribunal of Appeal, and from his great energy seemed as if he would be able to render many services in the administration of the London Building Act. Mr. Cates died at his residence, York Terrace, and his remains will be cremated to morrow at Woking. He was in his seventy-second year.

Few seaside towns within reasonable distance of London are sufficiently extensive to meet the demands for accommodation by metropolitan visitors. Ingenious householders cannot resist the temptation, and they endeavour by means of subdivisions to increase the number of the bedrooms, regardless of the risks which arise from sleeping under conditions which would not be tolerated in a prison or a workhouse. It is quite common to find bedrooms which, when the door is closed, have no visible means either of lighting or ventilation. Brighton is a confirmed offender in this respect, and the evil has become so gross the Corporation has endeavoured to find a remedy for it. In a Bill that was before a committee of the House of Commons on Monday, a clause was considered which would endow the authorities with power to issue bylaws prescribing the minimum size of any room that was to be used for sleeping in, and prohibiting the use as bedrooms of any that should be of less size than was agreed upon. Not only in old houses in Brighton, but in new houses, bedrooms are proposed which can only be regarded as mere boxes, and which are entirely unsuitable for habitation. The committee, we suppose, agreed in their belief with lodging-house keepers throughout the country, in holding that compensatory influences are to be found in the most wretched hole so long as it is near the sea. The clause was rejected, and it is therefore open to householders to pack a still larger number of wearied Londoners in search of fresh air into confined spaces.

In his last report, M. Albert Ballu, the architect-in-chief of the historic monuments in Algeria, has recorded the results of his explorations during the past year at Timgad and other places where the ancient Romans congregated. It has been found that at Timgad the houses were of much interest, and must have been comparable with those which existed at Pompeii. Outside the walls of the city the remains of a building were found, which was used as the baths, and which was about 260 feet in length by 215 feet. It contained thirty-five halls, three of them recalling those which existed in Rome. The remains furnish information about the manner of construction of those important edifices, without which Roman life would be incomplete. At Khamissa a theatre existed, which must have been of unusual importance. It would appear from the excavations that wherever a Roman went he endeavoured to create a new Rome provided with the luxuries with which he had grown familiar.

Wakefield, in Yorkshire, is interesting not only for its history, but for its fair bridge of stone with the right goodly chapel on its east side. The chapel was erected by Edward IV. in the fifteenth century, and stands on the site of one which was built by Edward III. The bridge also belongs to the time of Edward III., and was erected probably about 1342. It seems incredible that so old a structure, which has suffered from settlements, should be proposed to sustain a novel kind of traffic, or, in other words, a light railway that is to connect Wakefield with some surrounding townships. An order was made for the construction of the lines, and a few days ago an appeal was heard before the Board of Trade from the Light Railway Commissioners against the confirmation of that order. Originally the following clause was sanctioned:—"If before or within five years after the portion of railway (No. 3) on Wakefield Bridge is opened for traffic the said County Council either provide a separate footbridge alongside of Wakefield Bridge or widen Wakefield Bridge, the company shall, within six months after the completion of the said footbridge or of the said widening, as the case may be, pay to the said County Council a sum not exceeding 2,000*l.* towards the cost thereof." The Wakefield Corporation, the County Council and others came to the conclusion that the erection of a footbridge would be sufficient, but the engineers, who had not been consulted, thought otherwise, and concluded that a footbridge would be insufficient to meet the difficulty. Owing to the condition of the bridge it was not fitted to carry a footbridge, and besides, it would be necessary to purchase a mill near the bridge if the lines must be carried there; it would be better to double the bridge or construct a new one. The Surveyor to the West Riding County Council said the old bridge was not adapted for any additional traffic. A footbridge would be a dangerous expedient. To widen the old bridge would need an outlay of 30,000*l.* and a new bridge would cost 40,000*l.* The engineer of the project considered that a footbridge would be sufficient for foot traffic, and the old bridge was wide enough for two tramway lines. Sir Courtenay Boyle, who presided, said that further evidence was necessary, and in order to obtain it he decided to send a Board of Trade inspector to make the necessary inquiries. In this case archæologists should be stirring. Wakefield Bridge is the finest example of its class in all England, and it will not be creditable if for want of some representative of the public interests the bridge should be deprived of its Mediæval character and converted into a mere support for a tramway line.

The painters at Düsseldorf are so practised in their art that they make slight account of colossal undertakings which would be enough to daunt artists in other cities. The latest example is the frieze for the hall of the principal building where the exhibition is to be held next year. It will measure 312 feet by 16 feet. But already Professor Fritz Rober has executed a sufficient part to feel confident in his powers to accomplish the whole work. The subject will be one of those combinations of antiquity and modernity, reality and idealism, in which the German mind delights. Greek myths have with them almost as much significance as any of the northern legends. Prometheus is shown as imparting to men the fire which he drew from heaven, and without which modern machinery would not be of much account. Minerva appears in connection with Greek architecture and as the teacher of the art of textile production. Large figures represent various industries. The arts of peace are mingled with those of war. The goldsmiths and jewellers balance the armourers. But the artist does not confine himself to Greece; he introduces groups which are ideal representations of the life of the wine-dressers and agriculturists of the Rhineland. What has been done gives promise of a noble decorative work, which should enjoy a longer term of life than belongs to an accessory in an exhibition building.

ARCHITECTURE AT THE ROYAL ACADEMY.—II.

It cannot be said the public or municipal buildings of this year are numerous. We have referred already to some of them, such as the designs for the "New Old Bailey." Mr. Mountford, who was successful in that competition, also contributes a window from the south front of the new museum for the Corporation of Liverpool, the style, of course, being Italian or Classic. It is impossible to judge of detail from perspective views of a building, and credit should be given to the Academicians for allowing drawings in detail to be admitted from time to time. It is an innovation in the Academy regulations, but one which must work for good in helping to correct the tendency for taking into account only the general effect of a building. The competition for the Harbour Offices, Swansea, is shown by three designs by Mr. Minty, Messrs. Mills & Oldham, and Mr. W. Ernest Hazell. In all such cases the elements have to correspond. The windows have to be large. Some sort of tower has to be introduced, and there must be some varieties of materials used in the walls. But it seems to us that something could be often done to indicate the character of the building. In one of the views ships are introduced, and we may assume the offices are in some way connected with them. But it would not be difficult to introduce a vessel in full sail like one with which Mr. Collcutt crowns his view of "Lloyd's Register of Shipping." "The Town Hall, Liverpool," is a title which is suggestive of something extensive, but all Mr. F. M. Simpson shows is some panelling in the entrance of the hall, with gold grounds and a general sense of unobtrusiveness. "The Parish Hall, St. Gabriel's, Warwick Square," is nothing less than a revolt, by Mr. W. C. Jones, against the doleful houses of Pimlico. The contrast will be useful, and if it would only lead to their improvement many would rejoice. Messrs. Henman & Cooper's "Hospital, Belfast," can be judged by the illustrations we gave last week. But the primary consideration was the efficiency of the interior, in which many innovations have been introduced. We have illustrated the "Blackburn Police Court, &c.," by Messrs. Briggs & Wolstenholme. Another design for the same group of buildings is by Messrs. Woodhouse & Willoughby, in which much emphasis is given to the Court House, which becomes the dominant part of the block. Mr. Coates Carter has a design for "A Public Building in a Hot Climate," in which the elements are Classic and the open galleries promise a welcome shade. But the red roofs on a hot day are not refreshing. Another application of Indian-Italian is seen in Mr. Halsey Ricardo's "Joint Terminal Station for the East Indian and Bengal and Nagpur Railways at Howrah, Calcutta." It is an important work and is one of the few designs in the room which can be said to have novelty. "The Cartwright Memorial Hall" is represented by a premiated design sent in by Messrs. W. A. Pite & R. S. Balfour. It is Italian in style, and symmetrical, with more vigour than is common in such revivals. The only contribution of Messrs. Ernest George & Yeates is the "North London Crematorium." The architects have derived inspiration from Italian Gothic, a style, if it can be called one, which is so rarely used, it becomes adapted to the problem. Besides, it should be remembered the Campo Santo did not correspond with the modern cemetery, for the mausolea which are related to funeral urns are the most important feature in them. In Brescia, although it does not date beyond the nineteenth century, the tombs were to be arranged, according to the architect's plans, as columbaria. As for Pisa, it marks a revolution in the relations between the living and the dead, and for several reasons, therefore, it is fitting that the chief idea should be taken from Italy. Mr. A. H. Tiltman has two designs for "Hospital Buildings, Glasgow." The Eastern District Hospital is symmetrically arranged, and the monotony which generally mars those buildings is avoided by treating each storey with some distinction, importance being also given to the attics. The Royal Infirmary is still more reminiscent of Italy. Mr. R. M. D. Lucas has done zealous work for archæology by his efforts to preserve the Bar Gate of Southampton. He has shown how it can be adapted to current needs, and the drawing he exhibits is enough to condemn the vandalism which would annihilate so interesting a memorial. The "Glasgow Municipal Buildings" cannot be considered as new, and views of the interior and exterior have already appeared in the Academy. But none the less welcome is the vigorous drawing of the John Street front by Mr. Clyde Young, which is of a size to do justice to the detail.

Commercial buildings on a large scale belonging to companies or private individuals are to be judged by several works. Mr. W. Emerson's "Employers' Liability Assurance Corporation" is an excellent type of the Classic in vogue for such buildings. "Salisbury House, Finsbury Circus," by Messrs. Davis & Emmanuel, is, from the extent of its frontage, suggestive of a crescent. The style adopted is Italian, and there is none of that fussiness which is too prevalent in the district. "The Assembly Hall, Belfast," by Mr. R. Savage, is not unlike a combination of a great many offices, and variety has been displayed as far as is consistent with a single building. On such occasions when designs appear from so many parts of the Empire the question arises whether resident Irish architects ever produce a work that is worth exhibition in Burlington House. It would be necessary to go back a great many years in order to recall one. The absence of Irish work is remarkable, and when no signs of it are apparent English capitalists are to be excused if they give commissions to English architects, and defy all the dangers that are said to await the employment of persons unacquainted with the local conditions of building. The absence of them has a disadvantageous result for the building trades, for to avoid all risk English material is likewise imported. In fact, in no branch of business is the lack of enterprise, which is characteristic of Ireland, more marked than in the erection and furnishing of buildings. "The Baptist Church-house, Southampton Row," by Mr. A. Keen, is another combination of offices with shops on the street level, and in such a position should be a profitable speculation. "The New Bank Buildings," rebuilt by Mr. A. C. Blomfield for the Governor and Company of the Bank of England, will be more imposing when realised than on paper. It is in the Italian style, and refined, but much would have been gained by giving it a more massive appearance. "Messrs Cocks & Biddulph's Bank," of which Mr. J. Oldrid Scott is architect, is Renaissance, and the building is well adapted to its site. "The New Bank Buildings, Chester," by Messrs. Lockwood & Sons, is a picturesque example of the local architecture, in which timber is predominant. Mr. R. Lofthouse's "*North-Eastern Gazette* Offices, Middlesbrough," will be appreciated by the numerous classes who are occupied in the production of a newspaper. Light being desirable, the front is practically made up of a series of big windows. A comparison between this building and Mr. Worley's "Business Premises, Bond Street," will show as it were the two poles in the treatment of street frontages. In Bond Street the shop is the most important part, for which the limited frontage has to be utilised. But the upper floors must also have piquancy about them, if they are to pay as residences or for business purposes. In the Middlesbrough premises the shop is merely a receptacle for customers who rush in and out. It is in the upper floors the creation of a newspaper takes place. Both designs are admirably suited to their conditions. The block of "Professional Chambers, Cornwall Street, Birmingham," by Messrs. Henman & Cooper, proves that Birmingham can produce good architectural work. The front is warm in colour, and variety has been largely introduced in the arrangement of the first and second floors. Mr. J. Hatchard Smith shows an excellent Renaissance block standing on a corner site at Huddersfield. How so many county towns could have dispensed with club buildings for a long period is a mystery, for in the provinces they can become much more beneficial for social and political purposes than in the Metropolis. "The Borough Club, Nottingham," by Mr. G. S. Doughty, appears to have all the requirements for comfort according to the established standard. The walls are of red brick or terra-cotta; the windows project, and those at the end are arranged for different aspects. The "New Offices for the South Essex Waterworks at Romford," by Mr. C. Shiner, is rather fantastic in its admixture of styles. "The New Bankat

Leicester," by Messrs. Everard & Pick, might be a chapel, and probably is attached to some religious organisation. "The Empress Club, Dover Street," by Messrs. Wimperis & Arber, is in the style which the authors have made an element in the modern architecture at the West End, and which can be described as having some of the qualities of the people who use the buildings.

More costly houses have been exhibited in the Architectural Room than those displayed in this year's drawings. There is, however, an abundant variety of classes, not forgetting village inns and other houses for accommodation on a small scale. Mr. Ernest Newton sends three buildings. "The Entrance Front of a House at Chislehurst," and "The Garden Front of a House at Glebelands," are characteristic of his style. At Steephill, Jersey, a chimney which seems inspired by a clustered pier and forms a contrast with the straight lines of the others, is worth attention. Much surprise will be caused by the illustrations of a house which is mysteriously described as "Near Piccadilly," by Mr. Harold Cooper. It is shown by the aid of impressions from etched plates, and might be some romantic house miles away from London, which is rich in carved oak galleries and the other features of the architecture of two centuries ago. The idea is original, and it is needless to add that the plates are attractive amidst so many ordinary drawings. It is to be regretted that Mr. T. H. Watson did not employ a larger drawing for his view of "Whitney Court, Herefordshire," which is remarkable for its excellent grouping. Mr. B. Champneys' "House at Heathfield" differs from the majority of its class by the introduction of what appears to be a private chapel. Mr. F. A. Whitwell has two views of houses near Penn, Bucks, in which simple colour effects are aimed at. In both the walls are white, but in one case the tiles are a very pale red, while in the other they are darker or browned as if by time. Mr. G. Hammond, in "No. 1 Berkeley Square," makes the most of a very confined corner site. "Welburn Hall, Yorkshire," by Mr. W. H. Brierley, is a good instance of a long country house with wings. He is no less successful in his "Grimston Court." Mr. Stratton's "House on the Thames" shows the modern appreciation of scenes by the river, for the area of window space would appear incomprehensible a few years ago. Messrs. Mallows & Grocock, in their "Terrace and Summerhouses, Dalham Hall," have had the opportunity to introduce a quaint architectural garden. In it nature is supreme. But in the "Terrace Gardens, Sidcup," by Messrs. Mawson & Gibson, vases and statues are employed. Statuary is also an important element in the view of "Huntercombe Manor," by Mr. A. J. Gordon. Mr. W. H. Atkin Berry also exhibits country houses. In fact, it may be said that domestic architecture this year is on the whole creditable to the authors, and gives assurance of convenience to the occupants.

THE ARBITRATOR IN CONTRACTS.*

When old Astley uttered the famous cry, "Cut the cackle and get to the 'osses," he described succinctly in circus language some of the feelings of professional students towards writers of books for their use. Astley was not an enthusiast for high-flown speeches, which he looked upon as only a hindrance to the great business of his life, viz. the presentation of trained horses whose dramatic powers were independent of sounding phrases. In spirit, at least, the words are widely applicable. It is not to be expected, for example, that an architect, an engineer, or an artist who can present the forms of things in such a way before the vision of other men as to make them understood at a glance, should be disposed to spend a long time in following out elaborate descriptions or in pondering over disquisitions on things which can be re-created by a few strokes of a pen or pencil. In fact, for most readers it is very difficult to believe that the smallest volume does not contain a great deal of what used to be called "skip." Much, no doubt, is lost by the endeavours to get at the heart of a mystery by the shortest route. Scott's landscape descriptions are, for instance, transcripts from nature, and form fitting backgrounds for his dramatic incidents. But with human perversity one generation after another thinks they may be passed over without obscuring the comprehension of the story. Fielding knew of the weakness, and provided for it by informing his readers when chapters might be neglected, and by the ruse he no doubt succeeded in calling attention to the parts he appeared to undervalue.

Law books for architects may be taken as typical specimens of writing in which what is indispensable is not always distinguished from what many believe to be superfluous. Architects and engineers find a world of legal enactments, and they take it as they find it, without troubling themselves to question when or why each enactment arose. It would no doubt be better if everyone could discourse about the origin of building law and its agreement or disagreement with laws of other classes, but the subject is too vast, and life is too short and too busy, to allow of any attempt to bring the subject under individual control. It is to be regretted also that more attention is not given to legal treatises, for in them planning and construction exercise more influence than in the majority of books on *belles-lettres*. But although there may be respect for skill which is allied to the engineer's and the architect's, it does not get over the difficulty that a course of continuous reading on a subject is apt to obscure in the layman's mind what is most interesting to the lawyer's.

We have been led into these remarks by the very carefully prepared treatise on the position of the arbitrator by Mr. Charles Currie Gregory. As an engineer and a barrister, what he says on legal matters should be received with attention. He tells us that for over twenty years he has been continuously engaged in active engineering work, and subsequently for nearly as long as a barrister in railway or canal cases, or as an arbitrator or referee. In writing his book his aim has been to instruct the lawyer as well as the engineer or architect. But we imagine there will be much difference between the two classes of readers in receiving the instruction. As a rule an architect's knowledge of law is confined to certain maxims. What big volume can impress the architect more than the few words of the judge, to the effect that unless there was an express stipulation in the contract there was no right on the part of the architect to retain his plans, or that a certificate of the architect is to be conclusive evidence of the works having been completed, or if a man does in direct terms enter into a contract to perform an impossibility under pain of a penalty, he will not be excused because it is an impossibility? Words like the foregoing can be compared with the golden sentences of the ancients, and they have an influence on professional practice which it is hard to measure. Mr. Gregory describes at great length the functions of the engineer or architect in the preparation of plans, in superintending works, in expressing approval of them and in certifying for payment. The most important of the chapters is that which "investigates" the functions of the engineer or architect as arbitrator between the parties. Although American cases are occasionally introduced as references, the majority of the authorities cited are English. On arbitration as a principle Mr. Gregory has the following remarks:—

> The Roman law recognised arbitrators as distinguishable in two classes—those who were appointed by a formal submission and who acted in the capacity of a judge, and those to whom it was simply referred to set a price on anything that was the subject of sale, to estimate the value of a rent, to decide upon the quality of a piece of workmanship, to settle the shares of gain and loss between partners, or to determine any question of a nature similar to these. A party to the dispute was deemed incapable of being invested with the authority of an arbitrator of the former description, but he might, with the consent of the other party, be an arbitrator of the latter. The right of a party to have the remedial rights which accrue to him upon a breach of contract administered by the courts established by law for such administration was regarded by the common law as inalienable. Such courts did

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* *The Engineer or Architect as the Arbitrator between the Employer and the Contractor; and his other Functions under Building Contracts.* By Charles Currie Gregory, Member of the Canadian Society of Civil Engineers, Associate Member of the Institution of Civil Engineers, London, England; Barrister-at-Law of Osgoode Hall, also of the Bar of Nova Scotia. London: William Clowes & Sons, Ltd.

not regard it within the power of parties by agreement to oust them of their jurisdiction. They therefore held that a party's agreement to submit a case to arbitration did not prevent him from bringing and maintaining his action in court. It was only an award actually made in pursuance of a submission to arbitration that was permitted to have such effect. But though the courts so jealously maintained their jurisdiction in any cause of action which had arisen and had been submitted to them, they recognised that parties might in their contract, instead of defining the measure of a contract undertaking, stipulate that it should be defined by a third person, or by arbitration, or in other specified manner.

In connection with the position of the architect as an arbitrator the final certificate becomes an award, but it should be also considered as a proof that a contract has been completed. If by any circumstance the certificate should be held to be void, it appears from Canadian judgments there is no other evidence of equal value to prove that the employer's undertaking has been completed. In such cases it is absolutely necessary to have recourse to the courts. A case of this kind, however, does not appear to have arisen in this country. Another American decision worth noting is one that requires the presence of a contractor at a remeasurement for the purpose of correcting a former estimate; the employer is also expected to attend. It will be inferred from the character of the above extract that lawyers are more likely to use the book for information about the procedure in connection with contracts than either architects or engineers. It requires a special mental training to follow such sustained reasoning as in found in every page of Mr. Gregory's book. For those who have the inclination and the industry, the volume will no doubt be of much service when employed as the companion or expositor of the digests of building law which have to serve the needs of architects and engineers. But when the circumstances of the case cease to be commonplace, it is not wise to trust to one's own interpretation of what is legal and what is not. Practice has made the extent of the authority which an architect obtains under arbitration clauses plain to all. Wide as are the limits, he is not satisfied with them, and, as a consequence, a building agreement that will be acceptable to all parties in a contract is not easily devised. Mr. Gregory, from his experience on the other side of the Atlantic, might, we think, with much advantage have sketched out a form which would be generally held as being impartial. But as it is, his book is creditable to his industry and his desire that pitfalls should be avoided in the preparation of contracts. The treatise is unlike any which we possess in England, and as such will repay attention by those for whom it was prepared with so much labour.

PROFESSOR PETRIE ON EGYPTIAN CIVILISATION.

On Saturday afternoon, at the Royal Institution, Professor Flinders Petrie gave the first of a series of three lectures on "The Rise of Civilisation in Egypt." Ten years ago, he observed, the title of the lecture would have seemed strange; we were then groping about for clues in the hieroglyphs and the few remains of what might have been conjectured to be prehistoric times. But the whole aspect of the subject had changed. Until 1892 the whole of Upper Egypt was closed—at least to English work. But after that date at the outset British explorers found traces of Mycenæan civilisation; then remains of the dynastic period; and at last we had come to the period of first and second dynasties. These years had been fruitful of results, covering the years from 4000 B.C. to 7000 B.C., and we might say our knowledge of early history in Egypt was now more exact than that of the first ages of any other country in the world The range covered the unparalleled period of 9,000 years. In a table on the screen Professor Petrie marked successive periods, giving 5800 B.C. as the date of the highest prehistoric civilisation and 7000 B.C. as the rise of that civilisation. The Pyramid builders were about 3,600 B.C. Another table, with appropriate curves, indicated the successive waves and variations of civilisation. The great importance of Egypt was that foreign influences were probably smaller than in any other country, though there was some early Babylonian influence and at a far later period that of the Mediterranean seaboard. On the whole, however, the civilisation of this wonderful land was self-developed to an extraordinary extent. But in dealing with prehistoric times some points of reference, type specimens, standards and terminology were necessary. How could these be obtained in the absence of ascertained dates? There was no scale of time, and they must have a scale of sequence. For this a corpus of objects was needed, such as might, for example, in the case of Greece and Rome in the absence of dates, be found in the extant coins. In Egypt the tombs and their contents were the means of attaining such a scale and such a sequence of development. For such archæological investigation no means were so fruitful as pottery. The lecturer showed by example the varieties of form and the growth of art and style in successive epochs. The continuity of historic form was already known, and the presence of an alien form led to a reasonable inference of prehistoric character. In pottery a scale of sequence had been worked out with tolerable exactness during the period hitherto regarded as mythical. Research had carried us as far back as 5000 B.C., when there was clearly an influx of new ideas. By degrees the successive periods of the tombs had been ascertained, the interval between each being, roughly speaking, a generation. There were, he believed, about 900 kinds of pottery whose vogue varied indefinitely. Then the flints were another source of knowledge with their gradual modifications. The earliest flints were the best, and the changes of form might be traced from prehistoric times. The earliest metal forms and their successors were also illustrated. Then in slate the growth and improvement, followed by decay in workmanship, were shown by pictures of animals which ultimately became excessively formal and constrained. Except with metal the result attained was that art had reached its acme in prehistoric times and then began to degenerate. Until the North of Africa had become considerably dried and the Nile lost its affluents civilisation was out of the question. Until the mud deposits grew to great dimensions the valley of the river was a practically uninhabitable gorge. The period of the Nile deposits was about 8000 to 9000 B.C. We already knew the history until we worked back to about 5000 B.C., and there remained from 2,000 to 3,000 years. We ought to look therefore to some neighbouring country as the source of Egyptian civilisation. High up in the desert were found flints—some of them 1,500 feet above the Nile, in a region now barren and lifeless. This was evidence that the district was at one time inhabited and more or less fertile, and the erosion of large tracts of the country showed that the climate must have been a wet one. But he had also found these flints on the level of the present Nile, and this seemed to indicate the late survival in the country of palæolithic man. Then figures of colossal size of human and animal forms, cognate with what had been found in South Africa and elsewhere, were discovered, and a connection might be formed by means of these fragments of stone and others of ivory between Malta, the South of France and Egypt. The age to which these should be assigned was probably the palæolithic. These figures might be regarded as the last remains of the palæolithic period. In the whole prehistoric period there was no trace of the potter's wheel, and the variations of form were greater than was possible to the wheel-formed work. Of these many examples were vividly shown on the screen. There was much vigour in some of the representations, particularly of elephants, which were the work of the prehistoric period. The ivory combs, too, were singular and ingenious, and all belonged to the earlier period, the use of combs having apparently gradually passed away. These might be assigned to 6000 B.C. The lecturer next touched on the marks on the pottery—some clearly connected with those of Crete and Libya, and which formed the basis of various alphabets. These signs might be traced during 4,000 or 5,000 years of Egyptian history, starting from 7000 B.C., as the marks appeared from the first. In Spain and Karia similar signs—forty or fifty of them—were found, and in the Mediterranean the number was about seventy. These signs were traceable throughout the whole history of the Mediterranean, until by the growth of commerce and the need for common action a selection had to be made in the form of an alphabet. Thus the links which bound us with the dim past of Egyptian history were more palpable than was generally believed.

ROYAL VICTORIA HOSPITAL, BELFAST.

The erection of a new hospital for Belfast having been rendered possible by means of a Jubilee fund, inaugurated by Mrs. Pirrie during the Lord Mayoralty of her husband, the Right Hon. W. J. Pirrie, the committee visited many of the most recently erected hospitals with the view to the selection of an architect of practical experience in hospital work. Their choice fell on Mr. William Henman, the architect of the General Hospital, Birmingham, and he was requested to prepare a design. Sketch plans having been approved, the working drawings were prepared in conjunction with his partner, Mr. Thomas Cooper, and the contract was given last autumn to Messrs. M'Laughlin & Harvey, builders, of Belfast and Dublin, who have already made good progress with the works, under the direction of Mr. G. S. Flower as clerk of works. Mr. W. H. Stephens, of 13 Donegall Square North, Belfast, is quantity surveyor.

The lamented death of Queen Victoria, to whose memory the hospital is dedicated, necessitated the foundation-stone laying ceremony by the Prince and Princess of Wales on behalf of Her Majesty, fixed for April 18, 1901, being abandoned; but His Majesty the King has graciously expressed his desire to lay the foundation-stone later on, so that Belfast will yet be honoured by a royal visit for this purpose.

The accommodation in the new buildings will be for 300 patients, eight resident medical and surgical officers, seventy-six nurses and thirty-two male and female attendants and servants. The principal entrance to the site of six acres in extent, liberally granted by the Corporation of Belfast, with the approval of the ratepayers, faces Grosvenor Street. The administrative buildings of four storeys and basement, in three separate buildings on the north side, provide a spacious entrance hall (above the porch of which is a statue of Queen Victoria), also accommodation for the resident staff, the nurses' home, the attendants and servants' quarters, the dispensary and the kitchen department. On the south side of a main corridor, running east and west, are the wards, side by side without intervening space, and practically under one roof. Each ward is for fourteen beds, eight being for medical, eight for surgical and one for gynæcological cases, with their accessory rooms, approached by branch corridors. The wards are alternately arranged for male and female patients, each honorary physician and surgeon having control of two wards, one for each sex.

In connection with each group of four medical wards there are a large classroom and two clinical rooms, and to every pair of surgical wards there is an operating room. On the north side of the main corridor are the ophthalmic wards, two of six beds and two of two beds, also an operating room. Near to each of the seventeen large wards is a separation ward for two beds; a ward kitchen serves for each pair of wards, except for the gynæcological cases, where the department is self-contained, with separate operating room Bath-rooms and conveniences are attached to all the principal wards, and linen cupboards and stores for patients' clothing are provided. Two detached buildings are for isolation purposes, one being for six, the other for four beds, with kitchens, conveniences and nurses' bedrooms. To each of the fourteen bed wards there is a large window at the south end opening on to a balcony, and from which there is a view over park-like grounds to the hills beyond, and from end to end of the wards there are lantern lights glazed on the slightly sloping sides; consequently, as the only lofty buildings are on the north, whatever sunlight there may be throughout the day is admitted to the wards, or may be regulated to requirements by the provision of green draw-down blinds. The compactness of the arrangement of wards not only simplifies administration and reduces labour to a minimum, but it lends itself to the "Plenum" system of ventilation more readily and with more certain results than with wards one above another in buildings of several storeys.

To the west of the administrative buildings is the out-patients' or "extern" department, consisting of a large waiting hall with a number of medical and surgical consulting rooms around on the ground floor level, and in the basement there are retiring rooms for the use of students attending the hospital The appliances for securing ventilation are in a separate building at the east end of the main corridor, connected with the hospital at the basement level by the principal air inlet duct, which is 20 feet high by 9 feet wide at that end. The air intake building contains what may be regarded as the lungs of the hospital, because by means of the appliances there installed the whole of the fresh air supply is drawn in, filtered through moistened screens, warmed in cold weather and forced on by means of powerful air-propellers in quantity sufficient to change the whole capacity of the hospital seven times per hour in winter and ten times per hour in summer without opening any windows. The appliances are all in duplicate, each of sufficient capacity or power to supply the minimum amount of air required, so that all necessary cleaning, rest and repair of the machinery may take place without stopping the air supply.

The buildings, of which an illustration was published last week, will be unique in their external simplicity as well as their internal arrangements, but their size and the care that has been exercised in the selection of the stone to be used, combined with specially manufactured sand-faced bricks of good red colour, will, it is hoped, make the Royal Victoria Hospital, even in its architectural aspect, an acquisition to Belfast. The completeness of the arrangements and fittings of the buildings are, however, the points upon which the committee have most strongly insisted, so that the expenditure may be fully employed for the relief of pain and suffering among the poorer classes of the community. In fact, the cost per patient's bed will not exceed 300*l*, an exceedingly low figure for such a complete and up-to-date hospital.

HOLYROOD PALACE.

THE extensive renovations and rearrangements which have now drawn to a close in the Palace of Holyrood, and which have been in progress during the whole of the past winter, are only the culmination of a long series of improvements initiated by His Highness Prince Albert and carried to a conclusion by our late Queen. It may be remembered, says the *Scotsman*, that when in the forties Queen Victoria began her periodical visits to Holyrood the Royal apartments were somewhat circumscribed; but since that time a gradual absorption of rooms has gone on, resulting in nearly the whole building, plus the historical apartments and the Duke of Hamilton's house, being now the privilege of Royalty. Early in the forties both the Breadalbanes and Argylls had apartments in the Palace, which as a first step were quietly incorporated for the Queen's use. It was in this quarter of the Palace that about a dozen years before the exiled Charles X. of France for a second time had found refuge. These rooms were on the east side, and when the Crown resumed possession the Royal apartments formed the south and east sides in their entirety. There are still many citizens of Edinburgh who can recall the two brothers, John Sobieski and Charles Edward Stuart, almost daily wending their way down the Old Town to the palace of the Stuarts as guests of the Campbells of Argyll. No well-bred urchin ever passed these gentlemen (always dressed either in full Highland costume or cavalry-braided frock-coat) without giving the salute, which was invariably returned.

These alterations on the interior were followed by the entire reconstruction of the grounds. In the fifties sanctuary was abolished, the laws of debtor and creditor humanised, the dwellings of the "Abbey Lairds" razed, the old dairy of the M'Beans swept away, and the ground on which they stood enclosed as the south side of the Queen's Garden The northern approach from Abbeyhill was opened up, and the fine railing of George IV. refitted to the altered shape of the Palace grounds. The new Guard-house, which had previously been at the gateway, now the Porter's Lodge, was built opposite the Palace front with a corresponding elevation. The splendid fountain in the centre, where in olden times stood "the loupin'-on-stane," was erected, and the grand conception of the wise Prince Consort—the "Queen's Drive"—was quickly realised, with only one regret, the clearing away of Davie Johnstone's house and his famous jackdaw "Arthur Borg," from the hillside near St. Margaret's Well.

The drainage of the irrigated meadows to the south-west and to the east, the absorption of Wilson's market garden, Clockmill House and grounds and the adjoining field, followed. Lastly came some small acquisitions, such as Low's fruit garden, now the High School cricket ground, and the latest extension, some garden ground opposite Croft-an-Righ House. In conjunction with the restoration and planting of the Queen's Park to the east, and the pleasant little loch of St. Margaret, matters are now in a pleasant and salubrious condition, and at this point the interior of the Palace has had kindly attention in keeping with the other improvements.

Thus it has gradually come about that in place of the sides of the Palace comprising the royal apartments, as in the century just closed, the whole Palace, except the "historical apartments" and house of the Duke of Hamilton, the hereditary keeper, is now at the command of the reigning sovereign. The fine rooms of the façade fronting the outer courtyard have been remodelled and decorated, and now form the west front of the King's Holyrood House. The upper flat of the north side has also undergone like entire reconstruction for the royal servants, and the rooms have been fitted with baths, lavatories and gas. It is on this side of the quadrangle, above the great hall, where the ducal house is situated. The entire suite has undergone thorough renovation The whole of the fine lofty apartments and grand old oak staircase have been effectively treated by the royal tradesmen; and, although unoccupied, present a singularly pleasing aspect. Magnificent lustres, wall brackets and antique grates have been fitted, and both ceilings and walls show that great taste as well as considerable outlay have not been wanting. The very large and handsome rooms of the suite have been treated with a revival of the antique The ceilings are in flat oil and the walls coated with canvas, then oil painted either in dull red or in blue, presenting a surface as if rough plastered. The panels and doors are ivory white One exceedingly fine hand-worked cupola-shaped and profusely floriated ceiling, a perfect marvel of artistic workmanship, has been treated in pale tints, and being in a remarkably fine state of preservation, shows to great advantage. Another stately pillared room in the west face is an exceptionally fine example of the taste and skill bestowed on the rehabilitation of the rooms, ivory white being the prevailing colour, with panels of dull flat red.

The Royal kitchen below the great dining hall or picture gallery has not been forgotten. Both coal and gas-cooking apparatus, with self-acting turnspit, are provided, and from this department a culinary lift has been hewn out of the solid wall, rising to the picture gallery, where the Lord High Commissioner dines his guests, and thence to the Royal apartments above in connection with the east end of the Palace. As instancing the extraordinary massiveness and strength with which even this latest portion of Holyrood was built, it was found that the interior dividing wall of solid masonry in which the lift was hewn was about four feet thick, and the wooden standards attached were simply trees in their rough, natural condition, with one side only smoothed to receive the panels.

For a lengthened period renovations have been going on with the garnishings of the historical apartments, and quite recently the Duke of Hamilton's collection of paintings in James V.'s Towers were cleaned and regilded, and now add considerably to the interest attaching to these world-famed rooms. It is pretty well-known that while the Dukes of Hamilton are still hereditary Keepers of the Palace, and have still their apartments, they have not exercised the privilege of residence since the period when Victoria began to make it one of her residences. The eleventh duke, William, with his wife, Princess Marie of Baden, who were only married in 1843, were the last residents, and had a son there born to them. The present Keeper, Duke Alfred, is the thirteenth hereditary Keeper of Holyrood House.

Not the least interesting part of the restoration is that effected on the handsome crown surmounting the clock of Charles II. above the nobly designed Palace entrance of De Wit. Without doubt the finest toned bell in the city is here. Though not large, the bell, which is mushroom-shaped, has a tone of singular sweetness, and certainly dates back in years to 1680.

Of course the whole of these operations have received the most careful supervision of H.M. Office of Works, which has also attended to other minor improvements such as an entire relaying of drainage pipes, with ventilating shafts to the roof; a handsome set of tiled lavatory rooms in the north-west basement for servants; and, as some short time ago announced, a pleasing and much-needed smartening-up of the chapel royal.

RESPONSIBILITY FOR VALUATIONS.

On Saturday last, in the King's Bench Division of the High Court, judgment was given by Mr. Justice Bruce in Harding *v.* Ewing, a case which occupied some days in hearing at the Chester Assizes. The question at issue was whether the defendant, Mr. Charles A. Ewing, architect and surveyor, of Chester, acted negligently in stating the value of houses, by which the plaintiff suffered loss in purchasing the property. The circumstances will be made more plain from the evidence of the parties when the case was heard at Chester.

Mr. Solomon Harding, the plaintiff, said he formerly carried on business in Chester as an accountant and estate agent, but retired five years ago. In July, 1898, his solicitors, Messrs. Royle & Reynolds, submitted particulars of houses in Ailsa Road, Liscard, and he met Mr. Allday at Birkenhead and went with him to the property. The houses were in a cul-de-sac, and appeared to him to be badly built, and not being favourably impressed he told Mr. Allday he would not advance the money until he obtained a practical man's opinion. Mr. Allday said if he (plaintiff) would get a practical man's opinion he would pay the fee, and the matter was left in that state. A few days later he saw Mr. Ewing, and told him he wanted him to value some property for him at Liscard, and Mr. Ewing produced his pocket-book, took down the particulars and consented to visit the property. He (plaintiff) told him Mr. Allday would pay his fee, and that he was to send the valuation to Messrs. Royle & Reynolds. On a subsequent date he saw the valuation at Messrs. Royle & Reynolds's office, and while he was inspecting it Mr. Ewing came in. He (plaintiff) said it appeared to him that the value Mr. Ewing had put on the mortgage value was the commercial value, and that he had overlooked the ground or chief rents because there was no reference to them. Mr. Ewing replied, "Oh, yes, I have taken them into account," whereupon he (plaintiff) said it was important it should appear on the face of the document. On the suggestion of Mr. Ewing, Mr. Fletcher, Mr. Reynolds's cashier, wrote it on the certificate, and Mr. Ewing signed it, at the same time giving plaintiff the strongest assurance that the property was all right and that he had a good security. This caused plaintiff to remark, "Well, if it is such a good security as you represent, Mr. Ewing, you had better take it over yourself, hadn't you?" to which he replied, "I would, but I don't just happen to have the money available" He said, "Well, if I advance this money I shall expect you to take it over if it doesn't go on right," and to this Mr. Ewing replied, "All right." On May 9 he instructed his solicitors to call in the mortgage, and on meeting Mr. Ewing, after having inspected the property, and found it unsatisfactory, asked him to take it over as he agreed. Mr. Ewing declined. He (plaintiff) remarked, "Is that the kind of man you are?" and turned on his heel and walked away. Afterwards he gave instructions for the property to be put up for sale by auction, and 450*l.* being the highest bid, it was withdrawn. The reserve price which Mr. Thompson advised him to put on it was 900*l.*

Cross-examined by Mr. Francis Williams, plaintiff said he was at one time secretary of the Chester Starr Bowkett Society, and the defendant was surveyor to it. He would not have employed him to value the property had he not known him and had confidence in his skill. Mr. Allday and he had had previous negotiations, and there was an arrangement that whenever either of them introduced business to the other he should have a share of the commission. He applied for his share of commission, and received it after the transaction in question, although Allday was a principal. He did not know at the beginning of this transaction that Allday was a principal, but he had obtained this knowledge before he received the commission.

Mr. C. A. Ewing, Queen's Park, Chester, retired architect and surveyor, then went into the witness-box, and stated that when he met plaintiff in Newgate Street in August 1898, plaintiff told him he was going to give him an introduction to a gentleman in Liverpool who wanted a valuation making of some property at Liscard. He said he would give him the rents and all particulars when he went to him, and that he (defendant) was to make his own terms with him as to fees, because he was going to pay them. He got his address from Mr. Reynolds, and put it down in his note-book. Mr. Harding never mentioned anything about his inquiring about the rentals. He asked upon plaintiff's direction, and saw Mr. Allday at the Law and General Estate Office, Ltd, Cook Street, Liverpool, of which Mr Allday was manager, and Mr. Allday gave him the rents and the chief rents, which he made a note of, and then inspected the property, making a thorough examination of all the houses. He based his valuation on the annual net value of the rents, as given to him by Mr. Allday—149*l.*—and multiplied that by twenty years' purchase. From that he then deducted the chief rents, 32*l.* 10*s*, and he put twenty-five years' purchase on that, and that capitalised at 812*l.* 10*s.* Then he deducted the chief rent from the twenty-five years, and that left 2,164*l.* 10*s.*, and to keep to a level figure he put it at 2,100*l.* On seeing the houses he considered the rents given him by Mr. Allday were very fair and reasonable. Mr. Allday paid him his fee, 3*l.* 3*s.*, and out-of-pocket expenses. Subsequently Mr. Harding stopped him and said it was a high valuation. He (defendant) retorted that it was a very fair valuation, and if he had the spare money he would take it over himself. He was still of the same opinion that it was a very fair valuation of the property as he then found it, and according to the rents given him by Mr. Allday. When he met Mr. Harding in the street again—he believed it was May 1899—Mr. Harding said he was afraid the transaction was not satisfactory. Plaintiff said something about taking the property over, and then he made a sinister suggestion or insinuation that he thought it had paid him (defendant) to put a high valuation upon it, and of course he took that as an insult. He really could not tell what he said, but he turned on his heel and walked away. The circumstances and conditions of the property were totally different now from what they were in 1898.

In cross-examination defendant denied that Mr. Harding in the first interview gave him particulars of the houses, or told him anything about the rents. The only things mentioned were the sums of money required to be advanced, and he (defendant) thought it was a client of Mr. Harding's who was advancing the money. Mr. Harding did not say he had seen the property, and that he considered the houses badly built. He considered that he was employed to make the valuation by both Mr. Reynolds and Mr. Harding. He did not go to see the houses on the same day, as he first interviewed Mr. Allday. He went to see the property next day, calling first on Mr. Allday, and being accompanied by him to Liscard. He was under the impression that he went through all the houses, but he could not swear it. He knew he went through three. He would not swear he went over Mr. Chisholme's house; he certainly went into three, but which he did not know.

Mr. Evans: We have got these gentlemen here; that is why I put these particular houses to you. Do you suggest you went through No. 1?

Defendant: I really forget; I went into three houses.

Will you undertake to say you went into No. 1?—I will not undertake to say which particular houses I went into.

How many houses did you go into?—My impression is that I went through four of them.

How many will you swear you went through?—I cannot exactly swear. Certainly I was under the impression I went into four of them, but I really could not swear.

Have you ever before in making a valuation for the purpose of mortgagees advancing money accepted without further inquiry the rents given to you and the particulars given to you by a person interested for the mortgagees?—No.

I will ask you one further question. Do you think it right for any valuer making a valuation for the purpose of finding mortgagees to accept rents and all particulars from the intending mortgagor or his agent?—I did not know who the mortgagor was.

I ask you, do you think it would be right?—It all depends upon the state of the mortgagor. There are some people's statements I would accept.

Without further inquiry?—From some people I would.

But in the majority of cases you would not?—Perhaps not.

Would you from a complete stranger?—Not unless I was sent to that stranger.

Would you from a complete stranger who was either the intending mortgagor or his agent?—No, I wouldn't.

Allday was a stranger to you?—I had never seen him before.

Well, he was a stranger, then?—Yes.

Judgment was not delivered until Saturday, when Mr. Justice Bruce said the question he had to determine was whether the defendant was guilty of negligence in making valuation of the four houses in Liscard on which the plaintiff made an advance of 1,250*l.* on mortgage. The defendant had produced no memorandum of figures on which the valuation was made, but appeared to have acted on statements furnished by a Mr. Allday, the mortgagor, that the tot a was 149*l.*, to have multiplied that figure by twenty, made certain deductions in respect of chief rents and so have arrived at the amount of 2,100*l.*, which appeared on the valuation. His lordship considered that had the defendant exercised ordinary care and diligence he would have found that that rental value was excessive. The defendant contended that he was justified in accepting statements made to him by Allday because the plaintiff had referred him to Allday for particulars; but having regard to the language used, the learned judge did not consider that amounted to a direction that he was to act blindly upon the particulars that Allday gave. If the defendant had made reasonable inquiry he must have found out that Allday's particulars were insufficient. Further, he held that the defendant was not justified in multiplying the net rental value by twenty without first making ample allowances for repairs, &c. He had come to the conclusion on the evidence that there was no reasonable ground for treating the property as at a valuation of 2,100*l.* or anything near that sum, or that it afforded any kind of reasonable security for 1,350*l.*, the sum advanced, less 100*l.* retained for costs of certain road repairs. It was said by the defendant that since the valuation the neighbourhood had been depreciated by the building of smaller and inferior houses, but his lordship was not satisfied that the evidence had established this. Besides, the defendant, when he made the valuation, knew that the adjoining land was in the market for building purposes, and with this knowledge he had stated in his valuation that the property was one likely to increase in value. The plaintiff had established his case, and the only question remaining was that of damages. In his particulars of claim the plaintiff had stated the damage to which ac med to be entitled as 527*l.* 4*s.*, and the only figure in c ount that was disputed by the defendant was tha o 900*l.*, which was put down as the estimated value of th property. No doubt the plaintiff acted to the best of his judgment, and on advice in fixing that sum, but having regard to the evidence given by some of the witnesses called at Chester, his lordship considered that that figure was too low. In his opinion 1,000*l.* would be a fair value, and that reduced the amount of the damages recoverable in the action to 427*l.* 4*s.*, and his judgment would be for the plaintiff for that sum, with costs.

LANCASHIRE AND CHESHIRE ANTIQUARIAN SOCIETY.

On Saturday the members of the Society were hospitably received at Wigan on the occasion of their visit to the ancient town, the weather being a pleasant foretaste of the new century's summer. They were met at the station by Messrs. Henry Brierley and H. T. Folkard, F.S.A., the leaders. At the town hall the mayor (Thomas Fyans, Esq.) and Mr. Councillor Gee (chairman of the library committee), and other officials, ladies and friends courteously received the visitors, and after partaking of refreshments they were conducted to the council and other chambers. The former is a pleasant room and beautifully adorned with stained-glass windows, interlaced with heraldic arms and devices of the landowners, mayors and principal personages of the borough and district, the Rose of Lancaster being tastefully embodied in the armorial designs. The town's regalia, plate, maces, &c., were also inspected, as also several old charters of the borough. Afterwards the visitors inspected the old parish church, restored in 1630 and again in 1847, the registers dating from 1580, and made a full inspection of the old edifice and its tower, base walls 7 feet thick, and an impregnable room used in troublesome times. The Bradshaw or Bradshaigh Chapel came in for much attention, for in it are to be seen the recumbent effigies of the great crusader, Sir William Bradshaw, clad in armour, and Mabel or Mab his wife, the "Mab's" cross at Wigan being erected to her memory. It will be remembered that Bradshaw Hall, near Bolton, built in 1074, was the seat of Sir John Bradshaw, a descendant of the original founder of the illustrious house. The party, accompanied by the Mayor and his suite, next proceeded to Upholland Church, called St. Thomas the Martyr, a stone-built building of the fourteenth century, and made a close inspection of the old fabric, its unique vestry beneath, and its charters, plate, &c. Near are the remains of an old Benedictine priory of 1319, and fragments of the glass from the old windows have been preserved and introduced into the restored church, thus mingling the then old and new together in true antiquarian style. On returning the party proceeded by a circuitous route, *viâ* Appley Bridge, Wrightington Hall, Standish Hall and the village, and Wigan Lane, passing *en route* the monument erected to Sir Thomas Tyldesley, who was killed close by at the battle of Wigan Lane, and interred in Leigh Church, and finally past "Mab's" cross to the Royal Hotel. Here an excellent and well served-up tea had been provided, at which the Mayor presided, along with his friends. Among the antiquaries were Mr. C. W. Sutton, F.L.A., late president, Mr. G. C. Yates, F.S.A., hon. sec., several members of the council and ordinary members and friends, Messrs. G. Henderson and W. J. Redford, from Bolton, being amongst the number.

A vote of thanks was accorded to the Mayor and his friends, which comprised the local antiquaries, for the kind reception which had been accorded them, and the delightful arrangements for their enjoyment.

The Mayor responded in terms expressive of the pleasure it had given him to meet the Society in their old borough, and which had been honoured with their presence.

Other speeches followed, which brought to a close a day's proceedings enriched with pleasurable reminders of the visit.

POPULAR KNOWLEDGE OF ART.

We may estimate the prosperity of a nation by the general enjoyment amongst its people of the necessaries and luxuries of life, but we can form an opinion on its intellectual refinement only by the manner in which the first principles of taste are exhibited along with such enjoyment. The decorations of temples and other public buildings form no true criterion of judgment in this respect. These, for the most part, are the works of great artists, and great artists but seldom appear upon the stage of human life. Such men possess intuitively a knowledge of principles; but although the same degree of knowledge can never be imparted by instruction, yet such a general understanding of the principles alluded to may be diffused amongst a people as to elevate the character of the most simple attempts, and thus assist in rendering its effects visible through all the ramifications of society. But with all our schools of art there has as yet been no such general dissemination of these first principles, and consequently there exists no statutes in the republic of art, no code of laws for the guidance of public opinion, in forming its judgment upon the merits of such works as are subject to the rules of æsthetics. Under such circumstances the decisions regarding works of ornamental art and matters of taste cannot be expected, and it is thus we every day see the principles of design openly violated not only with impunity, but frequently with encouragement. Nor can it be expected that the public should endeavour to acquire a knowledge of laws which many of those who profess to follow high art seem to disregard. Attention to the elementary principles of harmonious colour in the decoration of our ordinary dwellings, in such of our manufactures as admit of it, and even in our dress, will in some measure assist in diffusing one kind of knowledge of what constitutes visible beauty, and the more effectually that we are in our climate for a considerable portion of the year compelled to dispense with the gratification and instruction which external nature affords the eye, and in the absence of works of high art to content ourselves with that which the interior decorations of our dwellings present.

NOTES AND COMMENTS.

Actions for damages arising through architects' negligence are becoming common. An ingenious one, Paget *v.* Dollar, has been tried before Mr. Justice Wright. Mr. Dollar was asked to prepare plans for flats at Church Row, Hampstead, and a tender was accepted for the work. Some differences then arose between the parties. Defendant sought an increase of fees for extra trouble imposed, but the request was not granted. It was then arranged that Mr. Dollar should retire and make over his plans to the plaintiff for the sum of 304*l.* Then it was discovered that the consent of the County Council to the plans had not been obtained, although the district surveyor had approved of them, and the action was brought to recover the outlay on the preparation of other plans and for the delay. In dealing with the London County Council or any public body the architect should be allowed to be guided by his own discretion. There is a time for all things, and the obtaining of permits at Spring Gardens is no exception. Mr. Dollar was able to obtain evidence in favour of the prudence of his action, and the judge accordingly decided in his favour, and allowed costs.

In various international exhibitions the Danes have been able to demonstrate that Thorwaldsen was not a phenomenal sculptor, but was rather the development of a course of endeavour to find the beautiful carried on for centuries throughout the country. An exhibition has been arranged, and will be kept open during the whole summer, which will exemplify for the first time the history of Danish art. It is held in the Rathhaus of Copenhagen, and the whole country has been laid under contribution in order to do justice to the undertaking. It may be said that Danish art from the time of Frederick II., or about 1560, will be displayed. Public and private collections have yielded such examples as were considered most desirable in a historical sense. Remote country houses have yielded portraits, tapestry, battle-pieces, &c., and the royal palaces have been subjected to a similar levy. Sculpture, engravings and architectural designs have been forthcoming in large numbers. Copenhagen alone has been illustrated by nearly 900 views, ancient and modern. Sculpture is largely represented, and Thorwaldsen's *Jason* has been placed in a position which suggests that it is the highest point reached by the national art. The exhibition may be called novel, which is saying much, and a great many lovers of art are sure to find their way to the Rathhaus of Copenhagen during the summer months.

The Brighton Aquarium is to be altered, under the direction of Mr. A. H. Tiltman. The existing property is to be purchased at a cost of 30,000*l.* A sum of 17,000*l.* will be expended in alterations. The decoration and remodelling of the engineering plant and tanks will cost about 10,000*l.*, and a similar sum will have to be expended on adjoining terraces, roadways and other works. The estimated expenditure is therefore 67,000*l.* It was originally proposed to lay out 90,000*l.*, but by various alterations a reduced amount has been arrived at. Under the management of the Corporation more success is anticipated for the Aquarium than has been hitherto attained, and it is assumed that in the course of a few years no increased burden will arise. In any case, the Aquarium will be an addition to the numerous attractions of the watering-place.

The chimney-pots of London are not an attractive spectacle when considered separately, but there is one consolation—those of Paris appear to be more hideous owing to the character of the buildings which sustain them. Paris in its turn cannot compete with Geneva, for the *tuyaux* of that austere city are so strange and nightmareish, Théophile Gautier was obliged to compare them to English acrobats rehearsing ungraceful feats. In a communication to the Société des Anciens Elèves de l'Ecole des Métiers, Mr. Laurence Harvey, architect, has devised a chimney which would not only be more efficacious than the unsightly tubes which are now seen crowning the roofs of the city, but which could be made to enhance the architectural effect of the buildings where they would be used. In the interior the smoke ducts would be circular, and would lead from the different fireplaces. They would be conducted to larger outlets, which would be protected in such a way as to prevent down-draughts. Although the invention is valuable it has not been patented, and it is not surprising that many local architects have decided to give it a trial in order, if possible, to effect an improvement in the city by its general adoption.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: WEST END OF NAVE.

THE HOWARD DE WALDEN NURSES' HOME, LANGHAM STREET, PORTLAND PLACE, W.: ENTRANCE HALL. DETAILS OF PORCH.

This new building, which is situated in Langham Street, Portland Place, W., has been erected by the Nurses' Co-operation; it is, in fact, the new home and club attached to that institution. It has recently been opened by H.R.H. the Princess Louise, the patroness.

In defraying the cost of the erection, the Nurses' Co-operation has been largely indebted to the philanthropic aid of the late Lady Howard de Walden, who not only contributed largely to the building fund, but in addition took upon herself the entire cost of the glazed brick front. This front is faced throughout with ordinary white glazed bricks having a flat ornament or relief in black glazed bricks, with the cornices, &c., in Doulton ware; the whole may be washed down and made as new whenever desired.

The interior of the building has been planned with every consideration for the purposes for which the home has been built, and it is excellently ventilated and lighted throughout. The ground floor contains a spacious entrance-hall, two large club-rooms (resident and general), dining-hall or restaurant, with servery, &c., attached; secretary's office, matron's apartments, cloak-room, lavatories and a bath-room. In the basement are large kitchens, larders, &c., spacious servants' hall, housekeeper's room and man's room, a large box-room fitted with stands for the accommodation of the nurses' trunks, also large cellars and vaults. The upper floors contain altogether forty-three bedrooms, also a room for use in illness; three bath-rooms. The wide passages on each floor are fitted with extensive cupboard accommodation. Built out from the main building is a sanitary wing, containing the w.c.'s and housemaids' accommodation for each floor. The premises are lighted throughout by electricity and are heated with hot water, and the staircase and floors throughout are of fireproof construction.

The whole building has been designed with a view to the strictest possible economy, both in regard to the cost of working the home and to the up-keep of the building. The front is a fine example of glazed brickwork; it has been erected by Messrs. Doulton & Co., of Lambeth, the glazed bricks being supplied by the Farnley Iron Company. Messrs. Mark Fawcett's system has been adopted for the fireproof flooring, and the heating arrangements were carried out by Messrs. Russell & Co., of Berwick Street, W., and the sanitary work by the North British Plumbing Company.

Mr. Jonathan Andrews, of Mount Street, Grosvenor Square, W., was the contractor employed, the building being planned and designed by Lady Howard de Walden's architect, Mr. Arthur E. Thompson.

ITALIAN HOSPITAL CHAPEL, QUEEN SQUARE, LONDON: THE DOME.

RESIDENCE, OXTON, BIRKENHEAD: ENTRANCE FRONT. GARDEN FRONT.

This house, which is now in process of erection for Mr. Thomas Gilton, from the designs of Mr. J. H. Cook, of Liverpool, occupies a fine site adjoining the golf links on Oxton Common. The facing is in Ruabon wire-cut bricks, with white local stone dressings and dark-brown roofing tiles. The interior, in which there is a considerable amount of wall panelling, is in white wood stained and dull polished, except dining-room, which is in oak. Each of the three entertaining rooms has an ingle fireplace, and in the hall the staircase with open screen has been made a feature. The carriage drive enters an oval forecourt on the central axis of the front. The contractor is Mr. Peter Rothwell, of Birkenhead.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

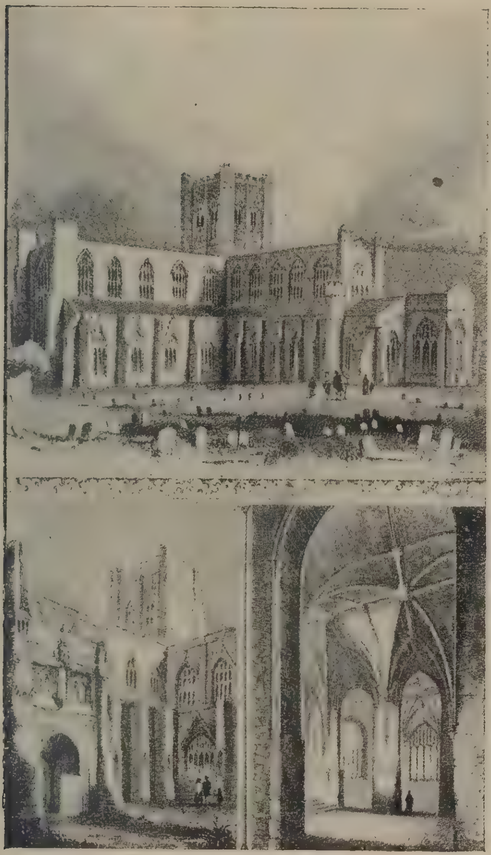
By T. Francis Bumpus,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

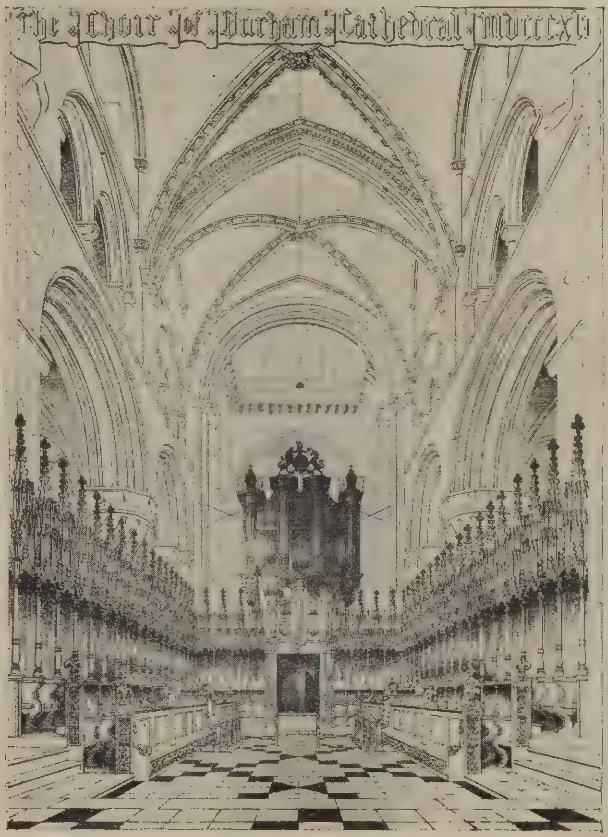
A BRIEF REVIEW OF ECCLESIOLOGICAL PROGRESS, 1855 TO 1875.

(*Continued from page* 229.)

DURING the autumn of 1861 the choir of Lichfield Cathedral, purged of Wyatt's abominations, was reopened, the occasion, for which Sir Frederick Gore Ouseley composed his fine anthem, "It came even to pass," being marked by a meeting of more than sixty choirs, numbering in all 976 singers, and completely filling the long choir.



Chester Cathedral in 1840 (from the S.E., the S.W., and the Interior of the Lady Chapel).
(*From an Engraving after Whymper.*)


The Choir of Durham Cathedral mdcccxli

Durham Cathedral. The Choir looking West before the Alterations of 1847 (from Billings's "Durham").

Lichfield affords, perhaps, like Ely, a typal example of the complete idea of church arrangement carried out without compromise in the largest and highest class of church, and from the absence of crypt—a feature involving a flight of steps at the entrance to the choir—with great facility, for the laity, although *en masse* relegated to the nave and space beneath the central tower, are perfectly able to see, hear and worship. The works of restoration (long in hand) at Hereford Cathedral, where the same arrangement was followed as at Ely and Lichfield were completed in 1863, those at Chichester in 1867, under the direction of Mr. Slater. Here it will be remembered that the choir had been denuded of its fittings in 1860, when, as a memorial to Dean Chandler, its restoration had been determined on, but the collapse of the spire in the February of 1861 put a stop to further progress. However, on the reinstation of the steeple in the summer of 1866 the works in the choir were resumed and pushed forward with so much vigour that, with the exception of certain details, it was once more in readiness for occupation in the autumn of the following year.

The earlier seventies witnessed the reopening of portions of several of our capitular churches which had for some years been closed to public view.

The lady chapel at Chichester Cathedral—spoilt as far as possible to accommodate the chapter library, and with its flooring raised to provide room for the Duke of Richmond's vault which ranges beneath it, the east window being closed up and others partly hidden—was restored to its present beautiful condition between 1871 and 1872 under Scott's direction, and in memory of Bishop Gilbert (died 1870). The January of 1872 witnessed the completion of the nave and aisle vaulting at Chester, a series of imposing services commencing on the Festival of the Conversion of St. Paul being held to mark the event.* At the same time the tower, in which a peal of bells had been placed, was completed as we now see it, with the pinnacled turrets—additions which of course deprive that feature of the outline it originally possessed, and of which an idea may be formed from the accompanying trio of illustrations.* Some years previously the lady chapel had been in the hands of Mr. Hussey and Sir Gilbert Scott, under whom it was likewise made to assume an entirely different aspect, owing to the recovery of its original First Pointed details which had been Perpendicularised. Stained glass by O'Connor was inserted in the eastern quintuplet, and the walls and roof coloured by Mr. Octavius Hudson.

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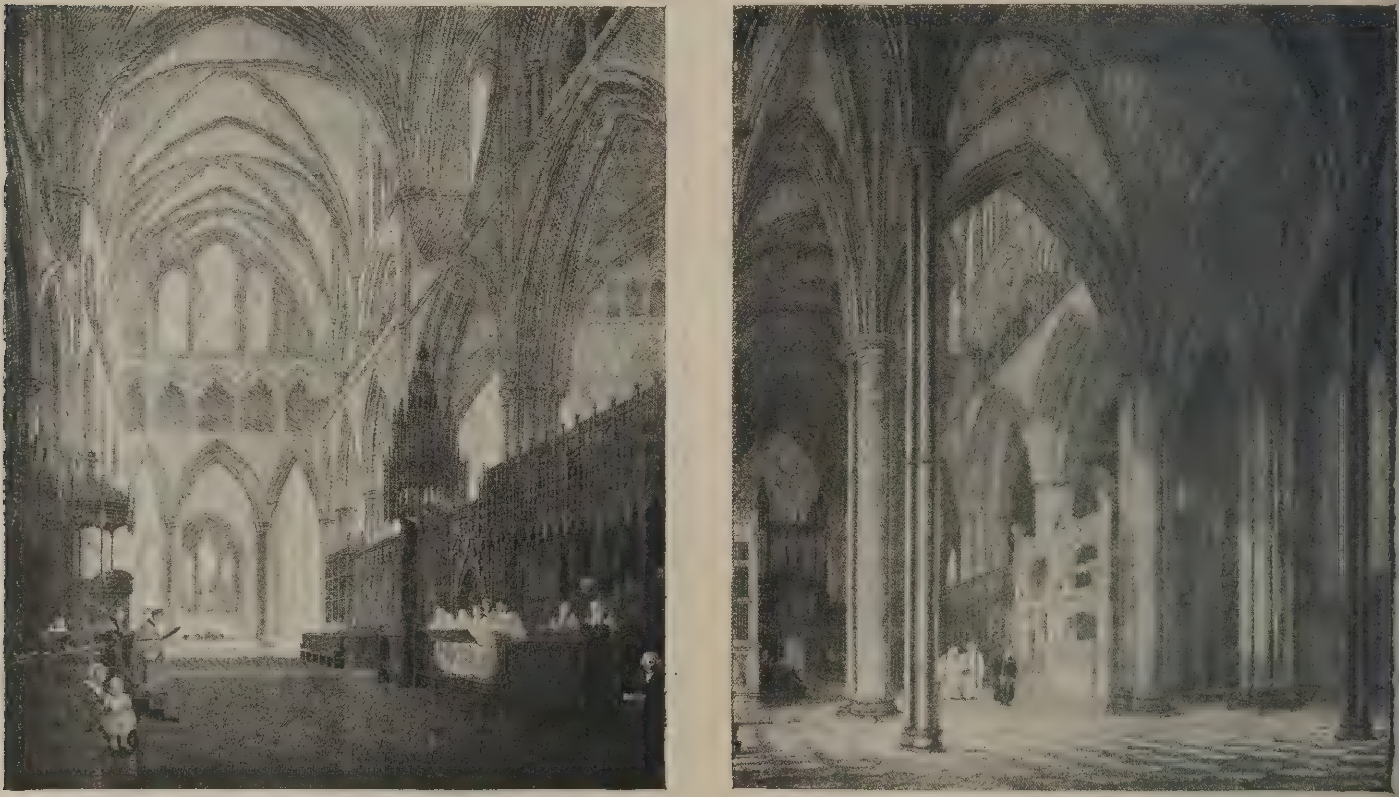
* Charles Kingsley, at that time Canon of Chester, writes:—"January 24, 1872.—Service this afternoon magnificent. Cathedral quite full. Anthem, 'Send out Thy Light' (Gounod). Cathedral looks lovely, and I have had a most happy day." (*Life*, p. 319.) Although preparations had been made for it, neither the nave nor the choir of Chester Cathedral had received their vaulting, both being covered with a most undignified flat roof of wood. (See Wild's Monograph, 1813.) Between 1844 and 1846 Hussey had effected some repairs and alterations in the choir, including a new roof groined in timber and plaster on the old springers, but this in 1874-76 gave place to the present one, constructed entirely in oak, and decorated by Clayton & Bell. Hussey's alterations in the choir were accompanied by some steps towards an improved ritualism, a conspicuous object there at its reopening on the Feast of the Epiphany, 1846, being a large eagle lectern presented by the Chancellor of the Diocese. A good view of the choir of Chester Cathedral as it appeared from this time until the removal of the organ and its loft in 1876 is given in Murray's *Handbook to the Northern Cathedrals*. When these restorations were undertaken the tracery of the clerestory windows was of the meanest

Gloucester Cathedral choir was reopened after the removal of some cumbrous fittings, the colouration of the roof, the insertion of stained glass in the clerestory, the erection of the reredos and other ameliorations in the sanctuary, in 1873, but the works neither here nor at Winchester were of that drastic nature perforce resorted to in other cathedrals, retaining, as the choirs did, their pre-Reformation choral arrangements intact. In the latter cathedral, when a heavy Gothic screen erected from the designs of Garbett about 1820, in lieu of one dating from Charles I.'s reign, was removed, an open one was obtained by the simple expedient of repeating the design of the return stalls and entrance doorway on the western side. The same mode was resorted to at Chester when the stone organ screen (in this instance of late fifteenth-century work) was taken down in connection with the extensive works of reparation and decoration completed in that cathedral's choir—now perhaps one of the most beautiful in England—in 1876. The same year witnessed the opening of three other cathedral choirs.* At Exeter, where the choral and sanctuary fittings were of the meanest description, the works were delayed by that deplorable litigation respecting the reredos. The noble organ was happily retained on its valuable early fourteenth-century screen, and the nave rendered available for congregational purposes at the daily services by removing the solid stone wall which on either side the entrance formed in pre-Reformation times the backs of altars, but without disturbing the return stalls. Durham Cathedral had been sadly tampered with in 1847 by Salvin, who made a wreck of Bishop Cosin's uniquely beautiful post-Restoration choral fittings, placing the stalls between the bays—as he did a few years later at Wells—and the organ on the ground floor, but substituting nothing for the grandiose screen which had supported the instrument. At the same time much curious, if not actually beautiful, furniture of the same period was cast aside, especially the spiral font canopy, which was subsequently, and under happier auspices, replaced.



Salisbury Cathedral. The Choir looking East. Salisbury Cathedral. The Choir looking West.

(*After Wyatt's Rearrangements in* 1789. From Dodsworth.

The works of 1874–76 were carried out under the joint superintendence of Sir Gilbert Scott and Mr. C. Hodgson Fowler, the former being responsible for the needlessly heavy and costly choir-screen and pulpit, and the latter for the rearrangement of the stalls and organ in their present position. With a little ingenuity one would have thought that Cosin's old return stalls could have been brought back again and an open screen of late fifteenth-century character, with just a soupçon of Renaissance imported, applied to their western sides, as at Chester and Winchester. Failing this, an open

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and most debased Perpendicular character, the monials and transoms forming mere gratings, quite devoid of foliations, while the external stonework was "so horribly and lamentably decayed as to reduce it to a mere wreck, like a mouldering sandstone cliff." (Sir G. G. Scott.) In giving the nave its new vault Scott did not venture upon stone, but, with Selby and York in mind, "completed the work in oak upon the lines given by the stone springers." Stone, however, was employed in groining the aisles. Sunday evening service was first held in the nave of Chester Cathedral in 1867.

* This series of drawings of our cathedral and parochial churches—the majority of them from the pencil of Whymper—appeared, accompanied by intelligent letterpress, in the *Church of England Magazine*, which ran from 1835 to 1862. They were subsequently reproduced, oddly enough, in a journal devoted chiefly to the fashions, *La Belle Assemblée*. Those who possess a set of these engravings will, no doubt, have observed a great falling-off in the execution of the later plates. The earlier ones, as will be seen from the accompanying, indicate much delicacy, not only on the part of the draughtsman, but of the engraver, but the series as a whole, though interesting as showing what our cathedrals and churches were like before the restorer's wand had passed over them, is deficient in those qualities which should render them of service to the architectural student.

* Exeter Cathedral choir was reopened St. Peter's Day, June 29; Chester, August 7; Durham, St. Luke's Day, October 18; Salisbury, All Saints Day, November 1. At Exeter the nave was closed shortly after the reopening of the choir for the cleansing from wash of its walls, pillars and roof, but was ready again on St. Luke's Day, 1877.

wooden screen on the motif of that in Brancepeth Church would have had a far more pleasing effect at a much less cost than the present cumbrous erection.

At Salisbury, where the choir was restored between 1870 and 1876 as a memorial to Bishop Hamilton, the presence of the wretched stall work put up by Wyatt during the latter part of the eighteenth century, when he was turned loose here, necessitated a remodelling as drastic as that of Lichfield and Rochester. The absence of backs and canopies to the stalls causes the choir of Salisbury Cathedral to assume an air of coldness which is but little alleviated by the colour introduced into the roof, and where, doubtless in pursuance of ancient precedent, the employment of a somewhat vivid green is by no means pleasant. Traces of this polychromatic decoration—medallions containing busts of prophets—were discovered during the restorations on denuding the choir vaulting of the yellow wash with which Wyatt had caused it to be bedaubed, and through which they could be discerned dimly looming. Concerning these paintings and their concealment, an interesting correspondence will be found in the *Gentleman's Magazine*, 1789, pp. 874, 1065 and 1195.

These and other "embellishments," due to the "elegant taste of Mr. Wyatt," and of which Dodsworth in his *Cathedral Church of Salisbury* seemed to think very highly, were in progress about the time George III. paid a visit to the city. The king's wonderment at the extreme "neatness" of the building, and his speculations as to how a brush could be got with a handle sufficiently long to reach the roof, was quite enough to provoke the mirth of that Gillray of versifiers—Peter Pindar—who, in his "Royal Visit," puts into the simple-minded monarch's mouth :—

> Neat, neat—clean, very clean;
> D'ye mop it, mop it, Mister Dean—
> Mop it, mop it every week?

Anent this visit of George III. to Salisbury Cathedral it may be mentioned that during the progress of Wyatt's alterations in that building a new organ was erected by the gift of His Majesty. "The occasion of this present deserves to be recorded for the sake of the gracious manner in which it was bestowed. The King inquired of Bishop Barrington, whom he knew to be the projector and patron of the intended improvements, what these improvements were to be and by what means the expense was to be defrayed. The Bishop described the alterations, and stated that a new organ was much wanted, though he feared that it would greatly exceed the means, which depended on the voluntary contributions of the gentlemen belonging to the counties of Berks and Wilts" (which the diocese at that time comprised). "The King immediately replied :—'I desire that you will accept of a new organ for your cathedral, being my contribution as a Berkshire gentleman.'" (Dodsworth's "Salisbury.") The instrument displaced by the King's gift was sent to St. Helen's, Abingdon, where it still is. When that church was restored by Woodyer it was placed in the south choir aisle, a conspicuous feature of its Renaissance case being a large gilded figure of the Royal Psalmist playing upon the harp. In views of Salisbury Cathedral made before Wyatt's alterations this organ-case and figure are clearly shown.

Wyatt took away the screen on which it stood, and put up another composed of ornaments selected from the Beauchamp and Hungerford Chapels, which he had caused to be removed from the north and south sides of the lady chapel as "preposterous additions," and which, as well as two small porches—one at the end of the great transept and the other on the south side near the lady chapel—and a belfry tower which stood on the north side of the Close, were stigmatised as "neither adding to the beauty nor to the convenience of the building"—atrocities which, committed not only here, but at Lichfield, Durham and Hereford, must be denounced in pity rather than in anger.

The accompanying illustrations show the choir of Salisbury Cathedral as it appeared after Wyatt had been let loose upon the fabric—the one giving some idea of it with the altar removed to the east wall of the lady chapel, and the other with the return stalls and the organ given by George III. in its 'Gothic" case. This organ, which, it should have been stated, was the work of Green—one of the most celebrated builders of the eighteenth century—was, in its turn, removed to the church of St. Thomas in the city when the restorations of 1869-76 were taken in hand at the cathedral.

THE ARCHITECTURAL ASSOCIATION.

THE last meeting of the Association for the session was held on Friday evening last, Mr. W. H. Seth-Smith, president, in the chair.

Alterations in certain by-laws were moved and adopted. By-law 27, ruling all monies belonging to the Association, was added to as follows :—"The committee shall appoint four trustees who shall be members of the Association, in whose names the investments of the Association shall be invested on behalf of the Association. Any vacancy in the number of trustees shall be immediately filled by the committee."

The first trustees appointed are Messrs. W. H. Seth-Smith, G. H. Fellowes-Prynne, Arnold Mitchell and G. B. Carvill.

Messrs. Ernest George and J. M. Brydon were by acclamation elected members of the Association. The other elected members were Messrs. R. Berrill, A. E. Chasemore, A. D. Jenkins, J. H. Cooper and J. H. Shearer.

Mr. Alfred Hands read the following paper, entitled

The Protection of Buildings from Lightning.

The popular idea of lightning comprises little more than that it is something stored up in a thundercloud which is apt to leave it and travel to earth, doing damage to objects which obstruct its course, that it is attracted to and conducted by metals, and that when it reaches the earth it disperses or becomes lost, more especially if it gets to water. These ideas give a very incorrect view as to what the problem involved in protection from lightning really is. As a consequence, it is popularly supposed to be a very easy one. All that is thought to be necessary is to have a lightning-conductor raised sufficiently high to attract the lightning ; it must be of large size to allow an easy path for the discharge, and its lower end must be taken into moist ground or into water, and there the matter ends. This view also contains an element of truth, but it is very far from being the solution of the problem. Instead of being a simple matter, protection from lightning is a most complex subject, and probably one of the most difficult among the many which architects are called upon to deal with in the course of the erection of buildings.

I cannot within the narrow limits of a paper place before you the whole subject, but I hope to be able to show something of the principles which are involved, and more especially as to the common-sense view, for, although it is very often ignored, there is such an aspect. I think that little could be said in favour of lightning-conductors if they would not bear the searching light of common sense. It is not a subject which can be taken up lightly and disposed of in a few words, and a thorough knowledge can only be obtained by very close study, exhaustive experiments, a careful investigation of the phenomena exhibited by nature when objects are damaged by lightning, and a very extensive experience of the questions to be considered in the protection of buildings. It is a subject which, when one has studied superficially, one is apt to consider easy and that one has mastered, but that after studying in all its bearings for a few years one finds it very much more difficult than one thought, and requires long and close application before it can be thoroughly mastered. There are so many subjects which it is necessary for architects to be thoroughly conversant with that I think few could spare the time necessary to render themselves experts in this one. At the same time it is advisable that they should know something of the principles involved, for until they do, cases of so-called failure of lightning-conductors, which are far more frequent than they should be, will continue to occur.

The subject is, I consider, a most important one, because, apart from human life being at stake, a vast amount of property is annually destroyed by thunderstorms—losses which could be prevented by a scientific application of conductors which would render their destructive effects nugatory. It is impossible to arrive at the amount of damage to property which occurs yearly in this country, but I believe I am below rather than above the actual figures in saying that it must be between 50,000*l.* and 100,000*l.* I have for many years been collecting particulars of damage of this nature, but I do not suppose that my record is anything like a complete one, because the list of papers searched has necessarily been limited, and, besides, there are very many cases which are not reported, even in the local Press—every year many unreported cases have been brought to my notice. From these particulars I am at present preparing a map of England, showing the positions and nature of the objects struck. This work takes considerable time if one desires to be accurate, and I have at present only completed from the beginning of 1898 to the present time, but thinking it might be of interest to you I have prepared a copy. This map has spots of various colours, representing buildings, ricks, trees and other objects damaged or destroyed, and human beings and animals killed or injured. I particularly wish to draw attention to the fact that most of our large towns, and particularly the manufacturing ones, are indicated by the number of cases of damage; I think this ought to dispose of the mistaken idea sometimes expressed that the smoke in towns acts as a protection.

I do not propose going into the question of the origin or process of formation of thunderstorms, but in order to understand the principles involved in the science of protection it is necessary to clearly understand the electrical action in a storm of this kind. You are aware, of course, that lightning is merely electricity differing in no respect from that generated by a frictional or influence electrical machine, except that it is on a gigantic scale. You are also doubtless aware that this form of electricity, called static, is of a dual nature, generally called positive and negative; that it is impossible to produce one without the other, and that, by a process called induction, where the one state is existent the other will be near it, being only prevented from joining by whatever insulating material is interposed. The existence of one electrical state is proof of the existence of the other, and that it is as near as the insulating material will allow it to get. This is precisely what occurs in a thunderstorm. The storm-clouds provide the charge of one nature, and the earth with the buildings and other objects on it has by induction the other; the air between is the insulator, which tends to prevent their joining. Of course it frequently happens that different clouds in one storm are oppositely electrified, and hence we get flashes from one cloud to another, but as these discharges do not affect our safety we may leave them out of account. Presuming that the cloud is positive, the earth and the objects on it are necessarily negative, and therefore there is a state of tension between the two which becomes more acute as the respective charges increase until at last the tension becomes too great, the insulating material gives way, and momentarily the path of the strain becomes visible by a line of matter rendered incandescent, and this we call lightning. The strain has existed before the flash appears, and the path it follows is all prearranged. One cannot say that anything has left the cloud to come to earth, any more than that something has left the earth to travel skywards. It is merely the reuniting of the two states, or rather the restoring of the equilibrium which had before been disturbed.

Franklin at one time used the terms plus and minus in place of positive and negative, and they are in a way convenient, but it will be more correct and, I think, more simple if we treat the matter merely as a difference of potential, for one state is only negative or minus relatively to the other. Adopting the terms plus and minus for the moment, however, we may say that if we regard a mild so-called positive charge as + 1, the corresponding negative charge would be − 1, or a more powerful positive charge as + 1,000 the negative would be − 1,000. In either case the total of the two joined would be 0, or a state of quiescence, and the difference between the two values + 1 and − 1 and + 1,000 and − 1,000 respectively would represent the difference of potential. But it is not necessary that difference of potential should be above and below zero, it may be all on one side; thus it may be compared to the difference between + 1 and + 2 or − 1 and − 2. Now, wherever a difference of potential exists there is a strain due to the necessity of restoring the equilibrium or level, and if the strain is great enough to break down the insulating material a spark will pass. Therefore, if we could do away with the strain or reduce it in time we should prevent the breakdown, or in other words, prevent the discharge taking place, and this is what we endeavour to do when we provide a lightning-conductor with points. They possess this power—they may almost be considered as safety-valves. While the potential in the clouds is being raised in the process of the formation of the storm, every point is reducing the strain by what is called brush or silent discharge. Theoretically a lightning-conductor should never be struck by lightning; practically it may be because the potential may be raised so rapidly that the points cannot reduce the strain quickly enough. Points, however, possess a very considerable protective effect, and form a most important function of a lightning-conductor, although not absolute The conductor might even be so far inefficient that it would not convey a lightning discharge harmlessly, and yet the points would still exert their protective effect in this way. During a thunderstorm the points of a conductor may frequently be seen to glow with the light of the brush discharge, and this may even be concentrated into short sparks, or a spitting effect, as Professor Lodge graphically puts it. Then we hear people say they have seen the lightning playing about the lightning-conductors. When this occurs the tension must be enormous, and it is just a question whether the lightning flash will occur or not.

If the points are not able to prevent discharge, the second function of the lightning-conductor, its power of conduction, should prevent any harm occurring to the building on which it is fixed if it has been applied on scientific principles, but it is just in this that the complicated and difficult nature of the matter consists.

I think it will make the matter clearer if I digress to touch briefly on what may be called the principal epochs in the history of protection.

It has been claimed that the invention of the lightning-conductor was complete in its first inception, like Minerva springing into being from Jupiter's head; but this is very far from being so. When, in 1752, Benjamin Franklin established the identity of electricity and lightning, he immediately suggested the possibility of preventing the damage which this force caused to buildings. Knowing the effect of a point in neutralising an electric charge, his original idea, I am inclined to believe, was that buildings should be provided with a metal point on the highest part, and that this should have the effect of preventing their being even attacked by lightning. The necessity for having a continuous conductor of metal from the point to the ground became evident, but this also was found to be insufficient. Then he realised that it was necessary to have the conductor carried deep enough into the ground to be in connection with conducting earth—that is to say, moist earth or water. So the idea of the lightning-conductor as regards its main principles was evolved. Buildings in Franklin's day were easy to protect; those of to-day are very different.

The next important epoch was when William Snow Harris became interested in the subject, more especially as regards the protection of ships from damage by lightning, the losses sustained from this cause both by the Royal Navy and the mercantile marine being at that time very considerable. Snow Harris succeeded in getting his system of protection adopted by the Admiralty, and became the premier authority of his day on this subject, ultimately receiving the honour of knighthood for the services he had rendered. Many of our important public buildings were protected in accordance with the plans and specifications of this distinguished scientist, and no case of failure occurred to show that he had blundered. I have had the opportunity of examining some of the buildings fitted in accordance with the plans of Sir William Snow Harris, and have been particularly struck with the thoroughness with which they had evidently been studied. One could clearly see the master mind in the way in which the work had been done. Snow Harris advocated copper as being the best conducting and most durable metal, and therefore the most suitable for lightning-conductors. His system, which generally comprised a number of conductors on one building, was to connect all the metals about the structure to one another and to the conductor system so as to bring the whole mass into a state of uninterrupted conduction. A most interesting controversy took place between Mr. C. V. Walker, F R S., who was at one time president of the Meteorological Society, and Sir William Snow Harris on the question of side flash or lateral discharge Walker contended that sparks might pass between a lightning-conductor and other metals about the building adjacent to it. Snow Harris made a distinction between metals which were earth-connected and would therefore form alternative paths for the discharge, and insulated metals which would not assist its passage to earth. He argued that while there would be a division of the discharge between the conductor and the alternative path, sparking to the insulated metals was impossible. One wonders in reading his works whether he really believed that sparks would only occur to metals leading to earth. The elaborate precautions that were taken to connect his conductors with all the metals about the building, whether going to earth or not, do not bear out this contention, or where would have been the necessity for such connections? The only construction I can put upon the matter is that he meant that with his system of protection side flash was impossible. I acknowledge that this argument savours of special pleading for Snow Harris, for his writings seem to indicate that his words are to be taken literally. In his work on "Thunderstorms" he discusses the matter at some length, and illustrates his arguments by two diagrams, in which he shows the alternative paths in which case he declares side flash would occur, owing to dividing of the discharge between the different paths afforded. He shows near his conductor insulated metals to which he says side flash will not occur. At least, that is, I presume, what he intends his readers to understand, but his words are rather ambiguous. He says, "Can the bodies *a*, *b*, *c* elicit from the conductor at the instant of its transmitting a heavy discharge of lightning, a destructive lateral explosion upon the parts of the building on which they happen to be placed?" This is the legitimate and fair definition of lateral discharge as applicable to a lightning-rod. I have no hesitation in saying that if that conductor was struck by a heavy discharge of lightning, as he calls it, sparks would pass, though they would be merely sparks between the conductor and those metals, not "explosions" in the bricks to which they are fixed, and there would probably be no traces afterwards of their passage;

but if we altered the conditions slightly by placing the conductor about 3 inches from the corner of a building and the metals 3 inches round the corner, the bricks between would be slightly damaged.

The next event to which I have to draw your attention is the formation of the Lightning-Rod Conference. In 1878 the Royal Meteorological Society decided that it was expedient that a conference should be held to consider the best means of protection from lightning, and issued invitations to certain other learned societies to appoint delegates. As a result the following gentlemen were appointed:—Mr. C. Brooke, F.R.S. (who unfortunately died the following year), Mr. E. E. Dymond and Mr. G. J. Symons, F.R.S, representing the Meteorological Society; Professor Lewis and Mr. J. Whichcord, representing the Royal Institute of British Architects; Mr. Latimer Clark and Mr. (now Sir) Wm. H. Preece, F.R.S., representing the Society of Telegraph Engineers and Electricians, as the Institute of Electrical Engineers was then called; and Professor W. Grylls Adams, F.R.S, and Professor G. Carey Foster, F.R.S., representing the Physical Society. Professor W. E. Ayrton, F.R.S., and Professor D. E. Hughes, F.R.S., were afterwards added as co-opted members. We have here a brilliant array of names, and it is difficult to believe that a better selection could have been made for the purpose. Their labours extended to December 1881, when their report was issued. During that time they had exhaustively examined all the evidence they could collect as regards damage by lightning, the methods adopted by manufacturers, and the writings of British and foreign authors.

The report of the Lightning-Rod Conference, as it is called, was published by Spons in 1882, and became the standard work of reference on the subject in the English language. Personally, I consider the rules they drew up, although not faultless, are admirable in the way in which I believe they were intended—that is, as a guide to architects and others interested in buildings, which should enable them to learn something of the methods employed in the protection of such structures, and give them some such knowledge as should enable them to see that the work was being carried out on scientific principles; to do away with prejudices often entertained against the use of conductors; but most of all to try and dispel the extraordinary ignorance displayed at that time by some of those engaged in the erection of conductors.

I cannot believe that the report was ever intended to serve as a complete guide capable of rendering any one who read it an expert fully qualified to plan the lightning-conductor system necessary for the protection of a building. If it was it was a dismal failure, and I do not believe that it is within the power of any man, or of any body of men, no matter what their scientific attainments, to formulate a set of rules which shall serve such a purpose. This report contains most of the facts which one requires to know, provided one understands the subject sufficiently well to be able to read between the lines and judge the lines of thought which no doubt induced the delegates to frame the rules. For instance, nothing is said about sparking, or side flash, from the conductor in actual words, but they draw attention to the necessity of connecting all masses of metal about the building with the conductor. As in our criticism of Snow Harris, we can say if sparking, or side flash, was not admitted, where would be the object of advising these connections? This rule commences, "As far as practical it is desirable that the conductor be connected to extensive masses of metal, such as hot-water pipes, &c., both internal and external" I consider the wording of this rule most unfortunate, because practicability has nothing to do with the matter. The connections are either necessary or they are not. If they are necessary practicability must not be taken into account; means must be taken to connect them even if it is inconvenient This rule has led to the assumption that these connections are not of vital importance, and therefore they are not generally made. With internal metals, for instance, it is rarely considered practical to connect them, because people naturally object to have their walls cut about in order to have a connection carried through. The explanation of the anomaly is to my mind to be found in the words which follow, "But it should be kept away from all soft metal pipes, and from internal gas-pipes of every kind." Obviously, if connecting to internal metals is not practical, the alternative is to keep the conductor sufficiently far away, but the point is generally missed. Probably the vagueness of the first part has led architects and others to think that the whole rule is unimportant, for in the course of a rather wide experience I have never yet met an architect who took into consideration the positions of inside gas or water pipes or other metals when deciding where he would have his conductors fixed.

The conference clearly stated that lightning-conductors may be of iron or copper, but advocated the latter metal as being more convenient and durable, and in the end the cheapest. They stated that the minimum size to be used should be a weight of 6 ozs. to the foot run, which in copper tape, now mostly used, would be ¾ inch wide by ⅛ inch thick.

The last epoch that we have to consider brings us to more recent times. In 1888 Dr. Oliver Lodge, F.R.S., was invited by the Society of Arts to deliver two lectures on "Lightning-Conductors" in memory of the late Dr. Mann, at one time a president of the Royal Meteorological Society, and who, during his lifetime, had taken a keen interest in the subject of protection from lightning. Professor Lodge is one of our most brilliant scientists, but I do not know that he had paid particular attention to this subject previous to this invitation. Professor Lodge delivered these lectures, and I am speaking mildly in saying that they created a sensation. In the course of these he carried out experiments intended to show that a very thin iron conductor was better for the purpose of a lightning-conductor than a thick copper one. Incidentally he showed that small-size iron wire was better than stout iron, and that small-size copper was better than stout copper. Here we have what appears to be a paradox—the worse the conductor the better it is. It is necessary to say that Professor Lodge states that "the values given are a record of a definite experiment, but their precise value depends on the circumstances of the experiment. It is easy to arrange so that the iron is less effective than the copper." Nevertheless, he remarked that he looked upon copper conductors as doomed. No discussion being allowed at these lectures criticism of Dr. Lodge's views was impossible, but it was an open secret that he was strongly opposed by other scientists, of whom Sir William Preece was perhaps the most antagonistic. At the British Association meeting at Bath in the July following the matter was discussed, and the battle between what were called the schools of theory and experience was fiercely waged. Neither side could claim a definite victory, and so Professor Lodge was asked to read a paper before the Institute of Electrical Engineers, at which the audience being electricians it was thought that the arguments on both sides would be better understood. So in 1889 a very interesting paper was read, at which most of the leaders of the electrical world were present. In this paper Dr. Lodge discussed at great length the question of side flash, or sparking, from a conductor, but he did not draw a line, as Snow Harris had done, between sparking to insulated metals, and the dividing of a discharge between a conductor and an alternative path. On the contrary, he appeared rather to treat all side flashes as being portions of the discharge, leaving the conductor to go to earth by other and sometimes worse routes, with the exception of secondary effects or the sparkings caused by induction in metals not connected with the conductor. He contended that the older electricians, as he termed what may be called the votaries of experience, had not taken certain laws and effects into consideration One of the main points in his arguments was that a lightning flash is not a single discharge, but is oscillatory; that is to say, that it consists of a number of discharges backwards and forwards till it comes to rest, a dozen or more alternations probably occurring in a flash occupying a minute fraction of a second, and that under these circumstances the generally accepted ideas as to the comparative conducting value of copper and iron are changed. Therefore, he now contended, iron of the same thickness as copper was "a trifle better, certainly not a whit worse, than the latter metal." I may say here that in the discussion which followed, and which was so lengthy that, including the reading of the paper, it extended over three meetings, Dr. Lodge was opposed by the majority of the speakers. They did not, however, protest against the possibility of side flash, but the ground mainly taken up was that lightning was not oscillatory, and they contended that the older views as to conductivity were sound. It is abundantly proved that the spark from a Leyden jar or any perfect conductor is oscillatory, but Dr. Lodge has himself pointed out that a cloud is not a perfect conductor like the coating of a jar or the sheet of metal generally used to represent a cloud in laboratory experiments; that it has an enormous resistance owing to its being composed of globules of water separated by air, and therefore theoretically I should say that lightning should not be oscillatory because the resistance would damp out the oscillations. The question is, however, I consider an unimportant one, because if harm was not caused by the first or second swing, the remainder would be harmless. Whether oscillatory or not, lightning has not suddenly changed its character, and without intending to detract in the slightest from the value of either theory or laboratory experiments, I must point out that the greatest value attaches to the observed effects of lightning.

Dr. Lodge illustrated his lectures and paper by some most interesting experiments which, however, I consider were not conclusive, because the conditions were not such as occur in nature. It would take too much time to discuss these experiments, but I may point out that the governing principle was to have a conductor of enormous length compared to the length of the spark used to represent the lightning flash. By doing this, the effect, for instance, with side flash is to exaggerate the sparking out of all proportion, and hence those who did not absolutely disagree with Dr. Lodge appeared to me to get an impression that if his experiments were to be relied upon, lightning-conductors would be almost useless, for side flash would occur to metals an enormous distance away. For this reason I have not introduced any experiments this evening, because if I magnified the effects in the same way, similar confusion might be caused in your minds, and if carried out in my own way—that is to say, by making everything more nearly proportional, and so approximating as far as possible to what occurs in nature—the results would be invisible except to a very few. To this day I often hear it said that Dr. Lodge says lightning-conductors are useless, and therefore I may quote his disclaimer. In his book on "Lightning-Conductors," published by Whittaker's, he says:—"I may be permitted here to repudiate the doctrine which has several times been attributed to me since the Bath meeting, that it is safest to be without lightning-conductors altogether. The long experience of persons learned in this art is by no means to be despised, and until an agreement as to improvements has been arrived at, the safest plan for ordinary persons is to adhere to existing practice."

Dr. Lodge's work forms in my opinion an important addition to the literature of the subject, if taken as purely of theoretical value, and on which we must base our own ideas of the practical results which are to follow. He has called attention to the necessity for taking certain effects more fully into consideration when arranging our system of defence, and has shown us some of the scientific reasons for their appearance, and for this we owe him a debt of gratitude such as we owe to every man who labours to give us a clearer insight into the mysteries of nature.

The effect so far of his work, however, appears to me to have been to cause a great deal of confusion in the minds of some people, and I must protest against the exaggerated views that are often expressed in relation to these effects. For instance, Dr. Lodge has referred to side flash and to the surging effect of a discharge, and other writers have referred to these effects as if they were some new invention of the devil tacked on to lightning to render it still more deadly than of old. These effects have existed since the days when lightning-conductors were first invented, and even before then to the earliest times in which metals used in the construction of buildings have acted as accidental or partial conductors of the electricity from thunderstorms.

Dr. Lodge has made suggestions as to improvements which he considered might be made in the applications of lightning-conductors. He prefaced these by saying:—"It is a matter on which I have not the slightest wish to be dogmatic; and if I make a few apparently definite assertions it is only by way of expressing such judgment as I have been able to form at present, and they are to be taken as intended more by way of suggestion and question than anything else." Leaving out of account those rules which apply only to powder magazines and lightning arresters, and three which refer to testing, and which are not of practical value, there are only ten which differ materially from previous scientific knowledge of the subject. I will give these ten rules, together with a few remarks, though my later observations will deal more fully with the matter:—

1. The use of copper for lightning-conductors is a needless extravagance.

2. Iron has advantages over every other metal.

My later remarks will deal with the question of copper *v.* iron.

3 It is hopeless to pretend to make the lightning-conductor so much the easiest path that all others are protected. All possible paths will share the discharge between them and a lot of apparently impossible ones.

This rule does not differ, except as regards the "apparently impossible ones," from the dividing of a discharge among alternative paths Snow Harris explained about fifty years before. My later remarks may explain this more fully.

4. At all places where water and gas-pipes come near each other, and in general where one metal ramification approaches another, it is best to connect them metallically.

This rule Dr. Lodge has since admitted is very open to criticism, but I consider that it would be an admirable one if it was only qualified by being made to read that in some cases it may be absolutely necessary to make such connections.

5. It is not wise to erect very tall pointed rods above the roof of a building.

6. In ordinary houses it may be well to try and insulate the lightning-conductor from the walls so as to lessen the chance of side flash to metal stoves and things inside.

7. In chimneys it may be well to use insulators to protect the bricks from concussion.

These three rules Dr. Lodge has since described as very doubtful

8. The orthodox rule "connect all pieces of metal to the lightning-conductor" requires modification thus, "connect all pieces of metal to each other and to the earth, but not to the lightning-conductor."

9. It may be always reckoned safe to earth things independently. It is often not safe to connect them to the lightning-conductor; *e.g.*, an inside lining of a chimney should be well earthed, but should not be used as a lightning-conductor, nor connected with it. The same with rain-water pipes and gutters. The same also probably with lead roofs.

After each of these two rules Dr. Lodge places a note of interrogation to show, I presume, that he was doubtful about them, and he has since admitted the force of the criticism to which they were subjected, and says he gladly takes refuge in another rule which contains the truism that the most difficult thing is to know what to connect and what to avoid. These two rules would be of vital importance, and would revolutionise present practice if they could be justified, but I hope to show you that they would be dangerous in the extreme, and, far from tending to increased efficiency of conductors, would cause failure. They have, however, been quoted by others as if they were correct, and without Dr. Lodge's subsequent remarks, or even the notes of interrogation after them.

10. Over the top of tall chimneys it is well to take a loop or arch of the lightning-conductor made of any stout and durable metal. Dr. Lodge has since modified this rule, but I need only say that the coronal band with points at intervals, recommended by the Lightning-Rod Conference, answers the purpose perfectly.

(*To be concluded.*)

TESSERÆ.

The Dome of the Rock and the Church of the Holy Sepulchre.

ROUND and octagonal churches appear in the first instance to have been built not so much for congregational uses as to overshadow some single central object—baptisteries to enclose the great central font, and other churches of this form to enclose some sacred tomb or shrine. It is a remarkable circumstance that at Jerusalem two such edifices exist, both very much alike in plan and construction, both overshadowing a mass of rock, and in both that mass of rock containing a sacred cave. One of these buildings is commonly called the Mosque of Omar, or more correctly "The Dome of the Rock." The rock it contains appears from pretty good evidence to be that in which the brazen altar in the ancient temple was erected, while the cave within it was a cesspool formed to receive the blood of the sacrifices. This rock was for some centuries after the destruction of the temple held sacred by the Jews, who made annual pilgrimages to anoint it with oil. The Christians at a later period, to annoy the Jews, had covered it by a dunghill; but when the city was taken by the Mohammedans it was searched out and cleansed by them, and became one of their most sacred sites. Omar erected probably only a small building to protect it, but one of his successors some fifty years later erected over it the present magnificent circular (or partially octagonal) temple called the "Dome of the Rock." The other circular edifice is the church of the Holy Sepulchre. When the sepulchre was first recovered by Constantine he erected over it a small ornamental building. This with the neighbouring church of the Martyrdom was destroyed about A.D. 600 or a little later by the Persians; after which Modestus, the coadjutor of the Patriarch, erected over the tomb a magnificent circular church, which probably suggested to the Mohammedans, who almost immediately afterwards took the city, the idea for the similar erection over their sacred cave. This church was in its turn destroyed about the year 1000, and shortly afterwards rebuilt on a plan nearly resembling the former one; shortly after which the city again came into the hands of the Christians, who enlarged the church to such an extent as to make it include the site of Calvary and other sacred spots. It was just about this time that our own early round churches were erected, being humble imitations on a very reduced scale of the building justly held so sacred by the Crusaders. The fact of their being built so soon after the church of the Holy Sepulchre itself was re-erected, and while the city was in the hands of the Crusaders, adds much to their interest. The Christians who had reached Jerusalem, and worshipped there at the churches of the Resurrection and of the Martyrdom, desired to erect on their return some church dedicated to the same service which might remind them, at least in form, of those most venerated places. There they had found the Sepulchre surrounded by a circular church, and joined to it the Martyrdom or the place of our Blessed Lord's crucifixion, forming what might very well be represented by a chancel eastward of the round. Such in general form are all the round churches still existing. There is a round answering to the church of the Resurrection or of the Sepulchre (for in our glorious faith the tomb and the place of the Resurrection are one), and there is the chancel answering to the Martyrdom, which was built over the spot on which our Lord's Cross had been raised.

Continental Squints.

It is well known how very rare is anything approaching to a lychnoscope on the greater part of the Continent. They occur in Normandy, they occur also in the Pyrenees (where the vicinity of the accursed race of the Cagots has given rise to some curious speculations), and Mr. Webb, in his "Continental Ecclesiology," specifies them as to be met with in the following churches:—Heisterbach Abbey; St. John's, Nuremberg; and Lecco, by the Lake of Como. The brevity of the list amply demonstrates the rarity of the arrangement. But it is not well, if it be at all, known, that lychnoscopes occur in Denmark quite as frequently as in England. Now the occurrence of this window must be taken in conjunction with the fact that the type of Danish is exactly that of English churches. While externally nothing can be more different in appearance than the unornamented walls, broach spire, clearly cut lancets and exquisite mouldings of a First-Pointed church in England, and the brick niches and arcades, the stepped and gabled tower, the stepped nave and chancel and the Tudor-like windows, of a similar building in Denmark, these differences are on the surface and accidental, and arise simply from the almost universal use of stone in England and its absence in Denmark. But the essential similarity consists in the rarity of apsidal or transeptal churches among Danish, as well as English, churches. The norm is that which has been called the Irish, not the Roman. The only important difference is the very general occurrence of an immense south porch and parvise, which gives occasion for the most elegant and fanciful external brick decorations, and which seems to have formed a recognised part of the ordinary ground plan of a Danish church. One other general remark may be made, that fully five-sixths of the churches now in existence are of Romanesque or First-Pointed date, the great majority being transitional.

Armenian Churches.

If we take a Byzantine church and elongate the square by throwing the narthex into it; make all the four arms internally apsidal, and the two opposite ones correspondent; prevent, or exceedingly diminish their external protrusion, by niching the wall on both sides of each; turn the complements of the parallelogram described about the cross into distinct chapels; divide the narthex into two, making it occupy the two chapels to the west, the prothesis and diaconicon occupying the two to the east; replace the central and angular domes by one central tower and spire, circular or octagonal; remove all piers and support the tower on the parabemata, and the correspondent projections or antiparabemata on the west; the transformation into an Armenian church will be well-nigh complete. The four angular compartments are, however, now generally used as distinct oratories or chapels. Hence it follows that a purely Armenian church, bisected either longitudinally or latitudinally, would often present (excluding the consideration of doors and windows) two equal and similar halves, a fact which would serve as a definition, inasmuch as no other system of churches is arranged on the same plan. As all Byzantine churches may be referred to S. Sophia as to their prototype, so may all Armenian churches be derived from S. Hripsime, near Etchmiadzine.

Inigo Jones and Palladio.

In the plans of his houses there was at times a great want of adaptation of the Italian manner by Inigo Jones to the requirements of this climate and the habits of the nation. He often aimed at magnificence under circumstances in which it could not be obtained, producing small rooms for the advantage of a grand saloon and staircase; or the reverse, large apartments with a mean staircase; a proceeding so contrary in principle to that laid down by Palladio, "that all the arrangements should be proportioned one to another." At Ambresbury he invented the double staircase, one within the other; the outer being the principal and the inner that which is usually called the back staircase. The custom of Italy to have the farm-offices, &c., in the same range of building with the mansion, and to raise the principal floor high above the ground, gave Palladio great opportunity for display of exterior. Jones reckoned justly that as English convenience neither required nor would readily admit this arrangement, Palladio's display of exterior should not be emulated here; the architects who followed him were dazzled, or dazzled their employers, by the effect of wings joined to the house by a colonnade, but this arrangement is undoubtedly very adverse to convenience, and especially so upon the moderate scale in which most of our villas and mansions are constructed. Jones's great feature as an architect was interior decoration, and in this portion of design he had no Palladio to refer to. His doors, windows and chimneypieces (the two former placed according to the Italian manner, with wide piers between the voids, so that the light is often insufficient in quantity; and the latter placed in any part of the room and built of an enormous size, emulating those of the previous era), are all unsurpassed in design by later architects. The deep compartmented ceilings he introduced from France, but not with the extreme luxuriant richness of his originals; here, again, he stands alone, though at times he may have fallen into excess; and his staircases at Coleshill, Westminster, Ambresbury and other places are perfect models of proportion and decoration. Jones is perhaps the only one, or certainly one of the very few architects who, taking Palladio as their guide, did not sit down and copy any one of his designs as the occasion might require. Jones studied his master attentively, but we shall rarely be able to find an instance of a deliberate copy. He sought the spirit of the style and found it. In his porticoes and façades, when using a long range of columns or pilasters, he usually coupled them at the angles, as at Somerset House, the portico to St. Paul's, &c., occasionally following the practice of his master by making the angle column square; he was not strict in the placing of the orders, having sometimes erected the Corinthian over the Doric, a disposition which in Palladio's works is never seen. This, after the death of Palladio, became a somewhat usual practice, as may be seen in the buildings at Rome and elsewhere. In the York Stairs Water Gate he introduced the Tuscan order of Serlio.

Rood and Parclose Screens.

The rood and parclose screens, many of them most varied in design and containing much elaborate carving, appear to have been greatly enriched by painting and gilding. Amongst the earlier examples, such as the Early English and Decorated ones, there have been traces of colour upon them, but generally it has been so obliterated that it is impossible to determine what their subjects may have been or in what manner they have been treated. Besides, there is a comparative paucity of such examples as to the screens themselves. It was upon the adoption of the Perpendicular style that the screens, like all the other portions of our churches, received the greatest amount of decoration and painting; indeed, the whole design of their churches during that era seems to have had that end in view, as will be particularly noticed in the enlarged size of the windows for the introduction of stained glass, and (frequently in large churches) the use of panelling extended throughout the whole surface of the walls. This mode of decoration in stained glass and diapered panelling must, in such cases, have produced a very rich and grand effect. The manner of treatment in the decoration of screens seems to have been very general throughout, having usually the lower panels filled with portraitures of the twelve Apostles and the four doctors of the Church, saints and evangelists; sometimes even bishops and kings were introduced to the larger and more enriched ones. The centre portion of the screens forming the door had frequently the portrait of Our Saviour represented upon it, the symbolism of which will at once be readily understood. Subjects are sometimes to be met with in the panels from the life of Our Saviour, and other historical ones from Scripture, disposed in series; now and then they had diapers forming the background, and at other times patterns of leaves and flowers were introduced instead. Those screens of a less ornate character had the simple diaper treated in a similar manner to those before noticed of mural decorations, on a red, green or blue ground, with small flowers of various patterns and stars introduced in gilt. The cusping was usually of one colour and the fillet of another; the spandrels, with carving of leaves, &c., were very generally gilded, having a ground of red, blue or green; the crockets, small pateræ and flower ornaments, forming the cornice of the screens, were also usually gilded with a groundwork of blue around them. The mouldings were painted in various colours; in some cases they have had minute ornaments in gold and colour introduced upon the larger hollows and primary members. It was common to paint the columns and principal mouldings in an alternate banding of colours, as blue and white, red and white, &c. The buttresses in front were frequently covered with gold, and upon their sides minute ornaments of flowers and twigs, gracefully introduced and of various colours, were painted. Gold appears to have been very profusely used, as is to be seen upon the rood-screen to Trunch Church, Norfolk, which seems to have been almost entirely covered with it, including the cusping. The principal ogee moulding contains a gilt and crimson flower, alternately introduced upon a waving band of crimson and white, with very good effect. Sometimes flowers are to be found introduced in the larger hollows as a diaper. The larger and richer screens had large rood-lofts with projecting canopies, supported by beautifully executed groins, which were decorated with colour and gilding, the spandrels to the groins being painted of an azure blue colour, and studded with gilt stars. Many, if not all, of these were crowned with the rood or image of Our Saviour upon the cross, which were often elaborately carved and decorated with painting; in some few instances they are described as being exceedingly rich, and even set with jewels. The symbols of the four Evangelists were sometimes introduced at the extremities of the arms of the rood, and at the feet were very generally placed the images of the Virgin Mary and of St. John.

Restrictions in Egyptian Art.

It is the custom to believe that the Egyptian artist was so completely restricted by religious dogmas as to have been excluded from every chance of producing variety either in form, proportion or character. This is not entirely the fact. They exhibited variety in their forms. That they had varied standards of proportion for their several personifications is proved by certain monuments, in which four different standards of proportion are applied to the production of statues. That they exhibited variety of physiognomical character must be clear to those who have not looked in an indifferent or indolent manner on the statues themselves. Individuality is no less to be remarked in their efforts in portraiture. Inferior or superior degrees of anatomical knowledge are among the evidences of earlier or later styles. The casual observer may pronounce as mannerism what should be accepted as generic or ethnographic condition. Individualised forms may be discerned that not only evidence intentions of producing individual resemblance, but justify the inference of accuracy in their representation. Eminent ethnologists have not only recognised in their outlined profiles great accuracy in the representation of conformations, corroborated by local and other circumstances, but they have detected specific differences to such an extent as to satisfy them of the intention to pourtray individual character. It is, however, to be remarked that in these profiles the eye is always represented as if seen in full front This peculiarity of treatment arose from ignorance of the principles of perspective. For want of a knowledge of those principles, the Egyptian artist could no more delineate the human eye as it appears in a profile view of the head than he could represent the front view of the head in a picture or bas-relief. And this incapacity is not characteristic of Egyptian artists alone.

Early Heraldry.

Little can be said upon the history of heraldry previous to the twelfth century, when it was reduced to a science and subjected to fixed laws, but the practice of assuming certain figures or devices as distinctive of nations and persons has been common in all countries from a very early period. The Scriptures contain frequent allusions to a species of symbolism which seems to have existed among the Jews, but whether we may receive these as metaphor or set them down as incidental references to a custom of the country cannot now be determined. The Persians, Greeks and Romans made use of significant devices upon their armour, and regarded permission to assume them as a very distinguished honour. With these nations, however, all emblems were strictly personal, being limited to the individual who bore them, to whom they were awarded for the performance of some brilliant national service. Even at the present day the influence of heraldry is perceptible in the most barbarous countries. No higher honour can be conferred upon the Indian warrior than the name of some animal pre-eminent for its sagacity or courageous disposition; and thus arises heraldic display, for the bearer of the name, the better to establish his claim to distinction, assumes as his dress the skin of the animal, or, if he be likened to a bird, he bedecks his head with its feathers, and by these badges is distinguished in council or in war.

The Nimbus in Art.

The nimbus was adopted as a religious symbol by the early Christians, and examples of it exist in the Roman catacombs which are attributed to the sixth century. In ancient illuminations, the wall paintings and the stained glass of old churches, heads of archangels, angels, evangelists, apostles, saints and martyrs are usually encircled by a ring of brilliant colour, assuming the appearance of light, which is presumed to signify that, as accepted servants of the Almighty, they have been honoured with this especial mark of His favour. *Circles* of light are never placed on the heads of persons alive at the time of the representation being made, however holy or powerful they may have been; but there are a few examples remaining of men with the reputation of great sanctity who were pictured when still in this life with a glory of a *square* form The nimbus of departed saints, when represented by painting, is sometimes merely a thread of light bounding the outline, and entirely transparent within; while in other instances the outline is marked by numerous rays or beams of light, by flowers, stars, or other ornaments. When, however, the sculptor crowned his workmanship with a nimbus, he was compelled to adopt a different arrangement, and had recourse to a disc or plate of metal, which could be richly ornamented with jewels, gilding and enamel, corresponding with, but surpassing in brilliancy, the coloured decoration at that time profusely lavished upon the entire figure. The glass-painters had it quite in their power to represent a transparent nimbus; yet they, for the most part, preferred an imitation of the opaque glory of the statuary; indeed, figures in glass appear rather to have been copied from stone-sculptured images than from the human figure. The nimbus was frequently made the medium of indicating by its colour or symbolical ornamentation the person upon whose head it was placed. Thus the figure of the Blessed Virgin was often crowned with a glory of blue enamel, bordered with golden stars. The names of many saints were also inscribed upon the margins of their respective nimbi. Angels and archangels had usually within their nimbi peculiar ornaments which probably indicated a distinctive symbolism.

GENERAL.

The Awards of the International Exhibition of Posters at Monte Carlo have been as follows:—(1) M. Hohenstein, Italy; (2) M. Willette, France; MM. Dudley-Hardy, England; Cassiers, Belgium; Chéret, France; Mucha, France; Hassall, England; Villa, Italy; Pal, Léandre, France.

Mr. Hippolyte J. Blanc, R.S.A., architect, Edinburgh, has been elected a Fellow of the Royal Institute of British Architects, London.

The Society of Architects will meet at St. James's Hall, Piccadilly, W., on Thursday, May 23, at 8 P.M., when a paper on "Building Contracts" will be read by Mr. H. H. Richardson, solicitor (Clement's Inn prizeman, 1879).

The Bishop's Committee in connection with the new Liverpool Cathedral announce that they feel justified in proceeding with the project. The subscriptions have reached 110,000*l*. The proposed site is not yet specified.

The Italian Government has bought Mr. Walton's *Evening* and Mr. East's *The Valley* from the International Exhibition of Pictures at Venice. They are destined for the Modern Art Gallery in Rome.

A Committee has been formed, with Countess Cadogan as president, to raise a fund for the endowment of a lectureship in Irish Art and Archæology at the Alexandra College, Dublin, as a memorial to the late Miss Margaret Stokes, who was one of the greatest authorities on Irish archæological questions.

The Edinburgh Architectural Association's next visit of the session will take place to-morrow, Saturday, May 18, and will be to Pittencrieff House and Glen and Pitfirrane House.

A Course of six lectures on Roman Britain is to be delivered at University College by Mr. F. Haverfield, Yates Lecturer in Archæology, on Thursdays, at 4 P.M., beginning yesterday, May 16. The subjects of the lectures will be as follows:—(1) Previous writers on Roman Britain from 1100-1900 A.D.; (2) sketch of the Roman Conquest; (3 and 4) the military occupation, army forts, &c.; (5) the civilisation of the non-military districts, towns, villages; (6) the sequel in post Roman-England. These lectures are open to the public without payment or ticket.

"La Parisienne," the plaster statue which stood over the main entrance to the Paris Exhibition, and was sold some time ago to a Hungarian nobleman, broke into fragments while it was being placed in a packing-case for conveyance to Vienna. Only the head of the figure was left intact.

The Institution of Junior Engineers will visit on Monday next, the 20th inst, at 6 P.M, the works of the Renewable Electric Lamp Company, Brunswick Place, City Road, N.

Mr. Leonard Collmann, who for nearly thirteen years served the late Queen as inspector of the Palace at Windsor Castle, has been retired by the King, and terminates his service in July next. A few days ago the King conferred on him the medal of the Royal Victorian Order in recognition of his services. Mr. Collmann was associated with the late Alfred Stevens, the sculptor.

Mr. Reginald Smith, of the British Museum, has just conducted a second excavation on the Winklebury estate, Basingstoke. He found fragments of pottery which he said undoubtedly belonged to the ancient British period before the Roman invasion of Britain. He also found a boar's tusk, and various portions of bones associated with traces of fire. These results agree with those of the other excavation which Mr. Smith conducted at the old Winklebury camp in November.

The Technical Education Board of the London County Council will shortly submit for the approval of the Council a scheme for purchasing as a site for the erection of new buildings as a permanent home for the Central School of Arts and Crafts, at present existing at 316 Regent Street, certain premises acquired by the Council in connection with the Southampton Row widening at the corner of Orange Street and Southampton Row. It is also intended that accommodation shall be found on the site for the London County Council School of Photo-Engraving and Lithography in the event of that school being unable to continue the tenancy of its present premises. The cost of the site is stated to be 45,000*l*., which sum, it is proposed, shall be borrowed under the authority of the Technical Instruction Acts.

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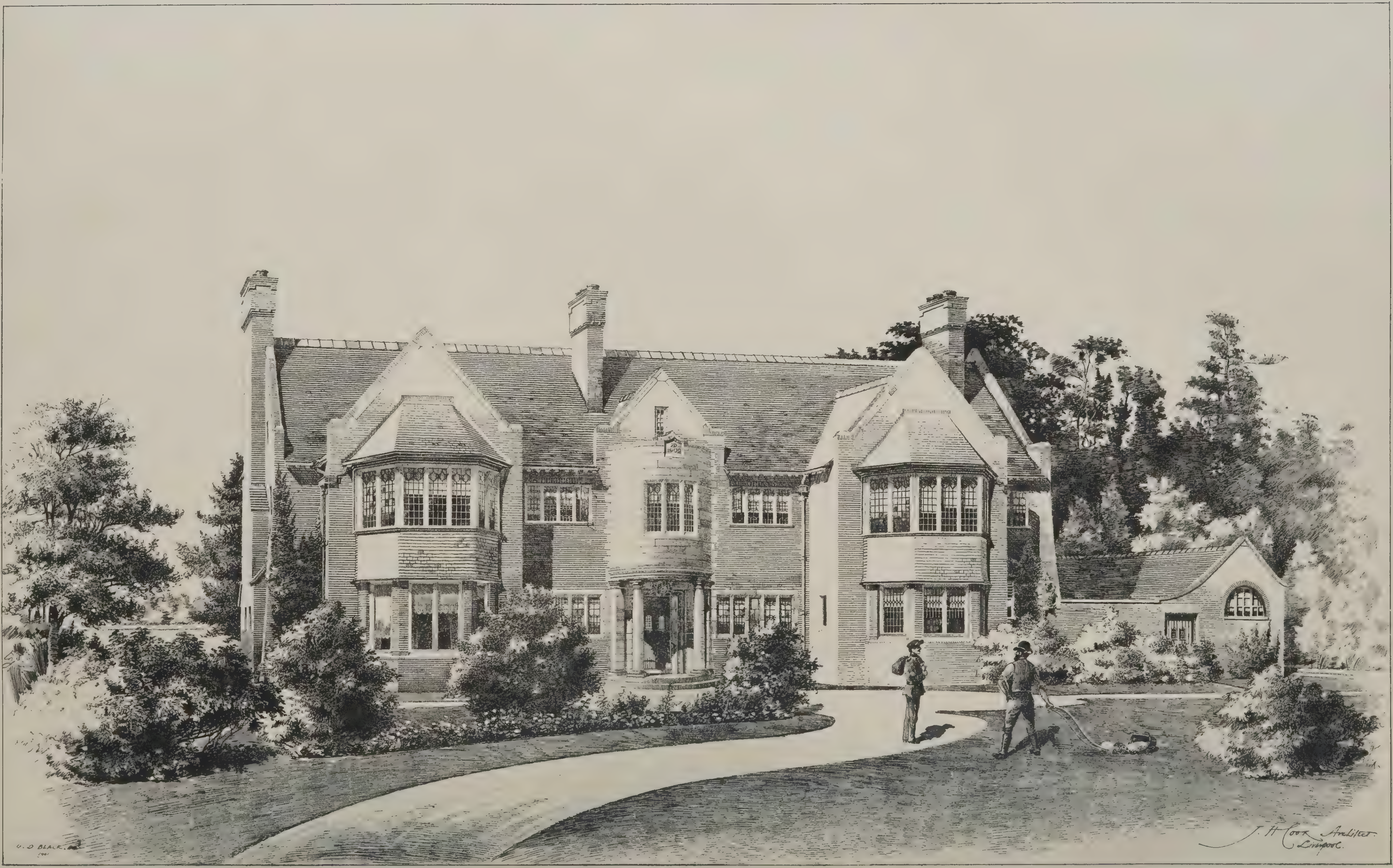

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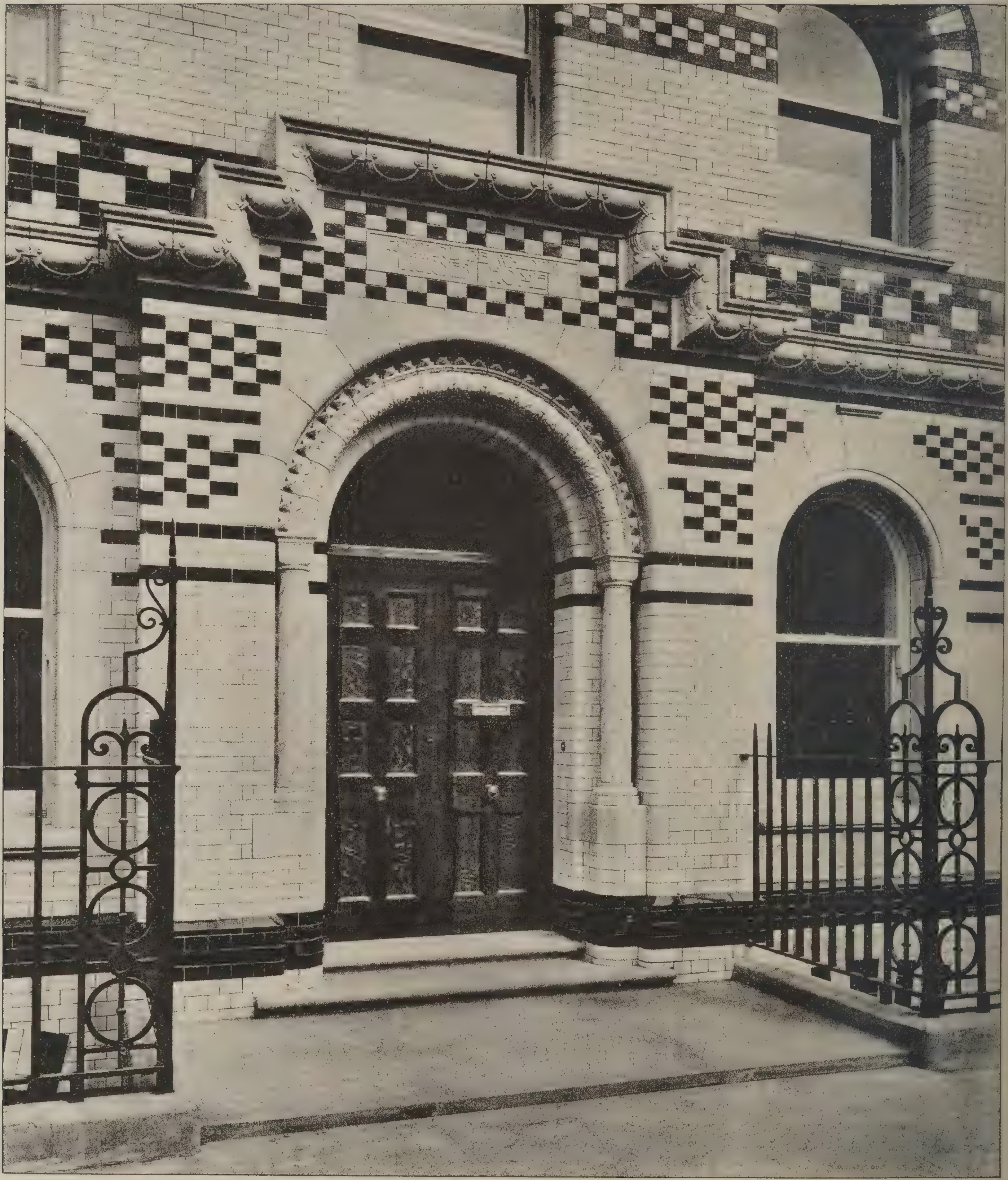

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THE HOWARD DE WALDEN NURSES' HOME, LANGHAM STREET, PORTLAND PLACE, W.

DETAILS OF PORCH.

ARTHUR E. THOMPSON, Architect.

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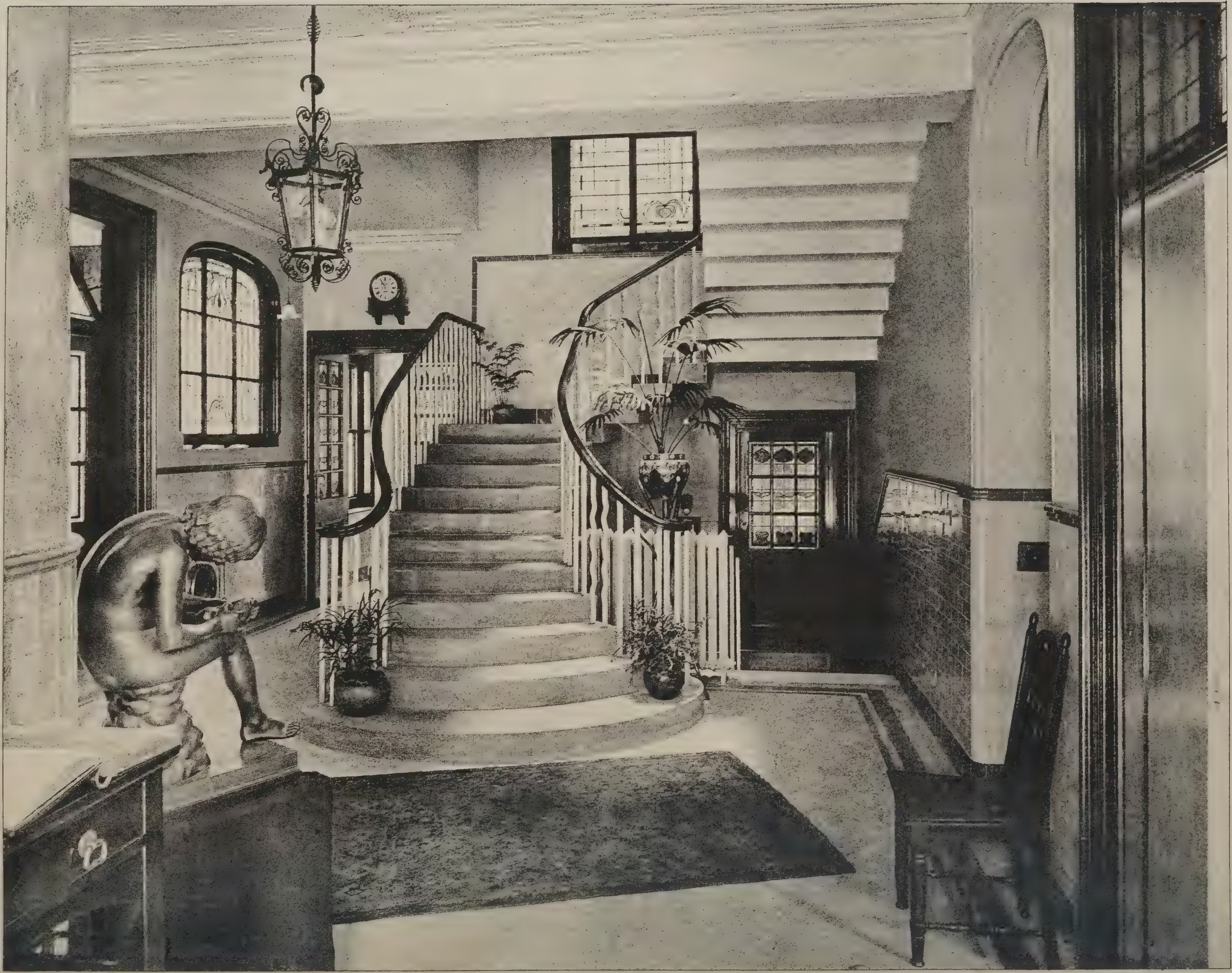

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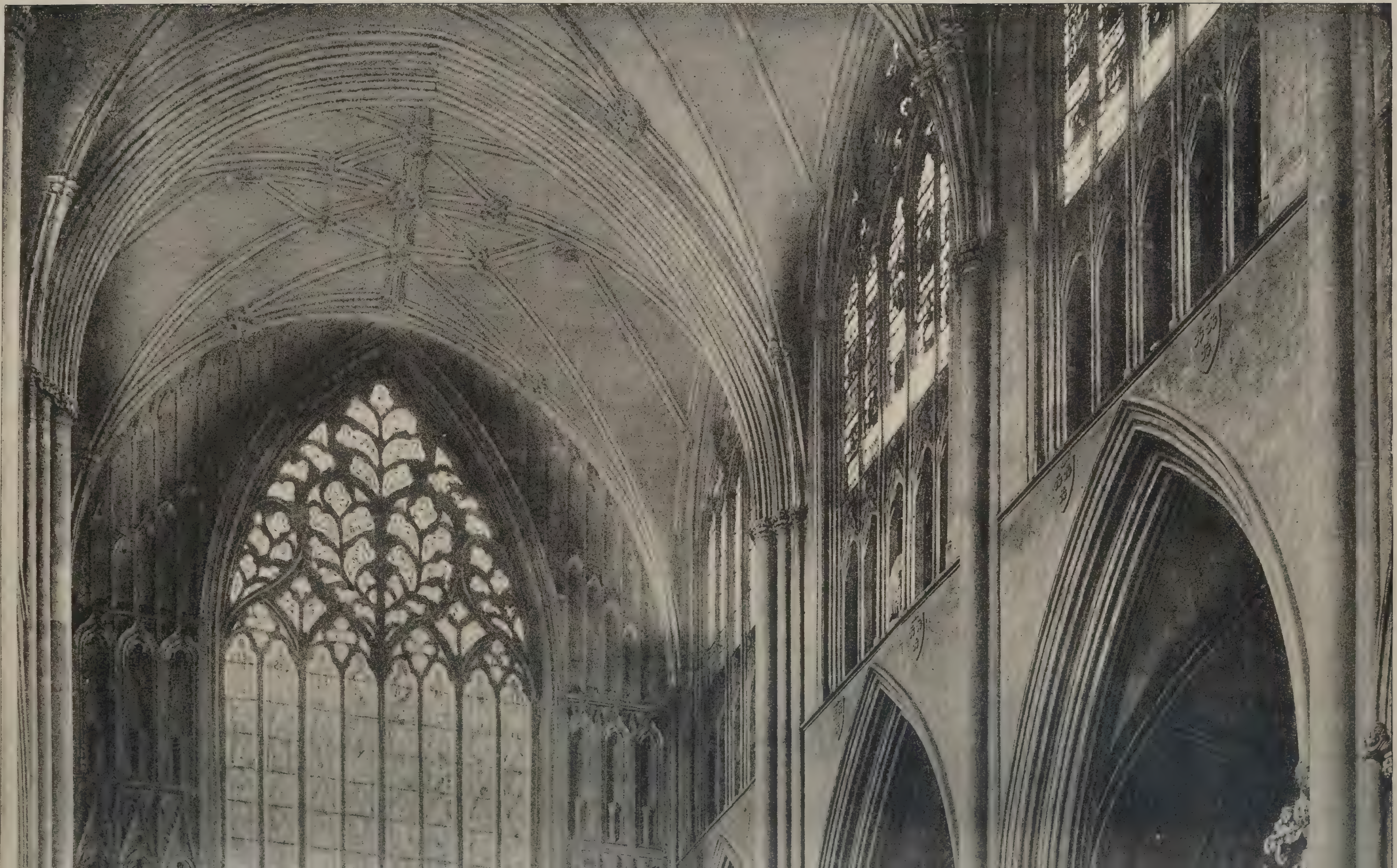

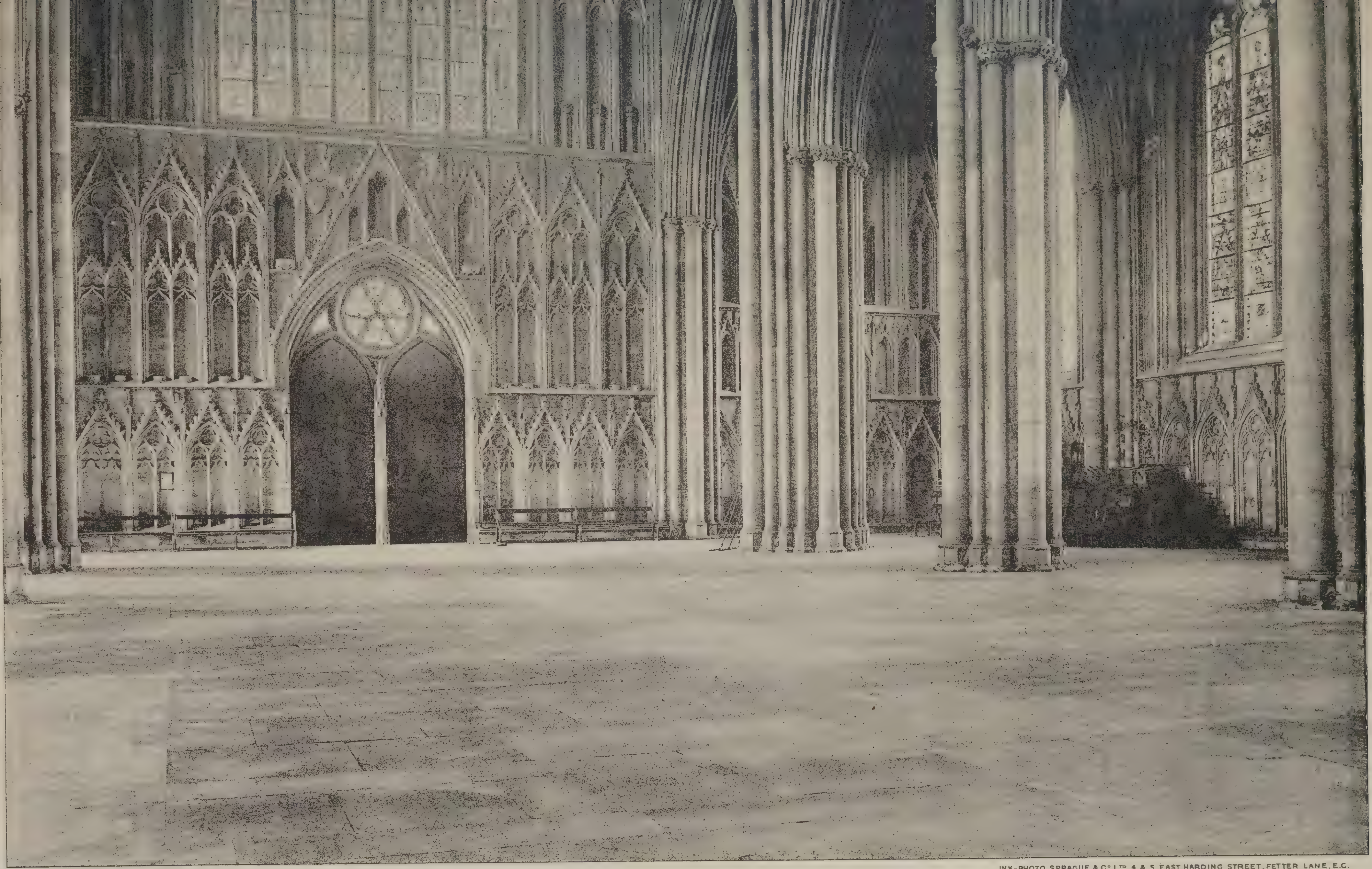

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CATHEDRAL SERIES, No. 335.—YORK MINSTER: WEST END OF NAVE.

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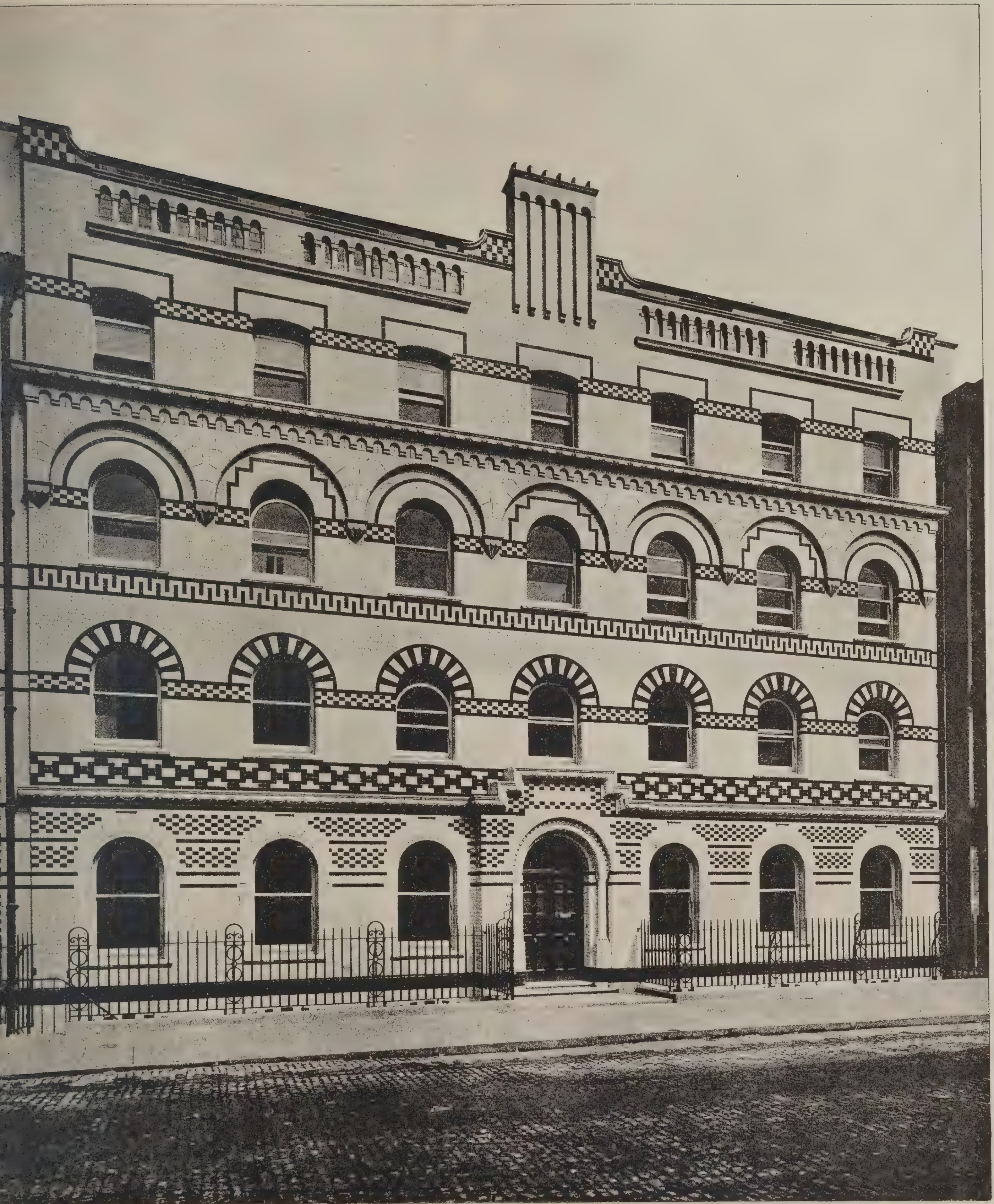

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THE HOWARD DE WALDEN NURSES' HOME, LANGHAM STREET, PORTLAND PLACE, W.

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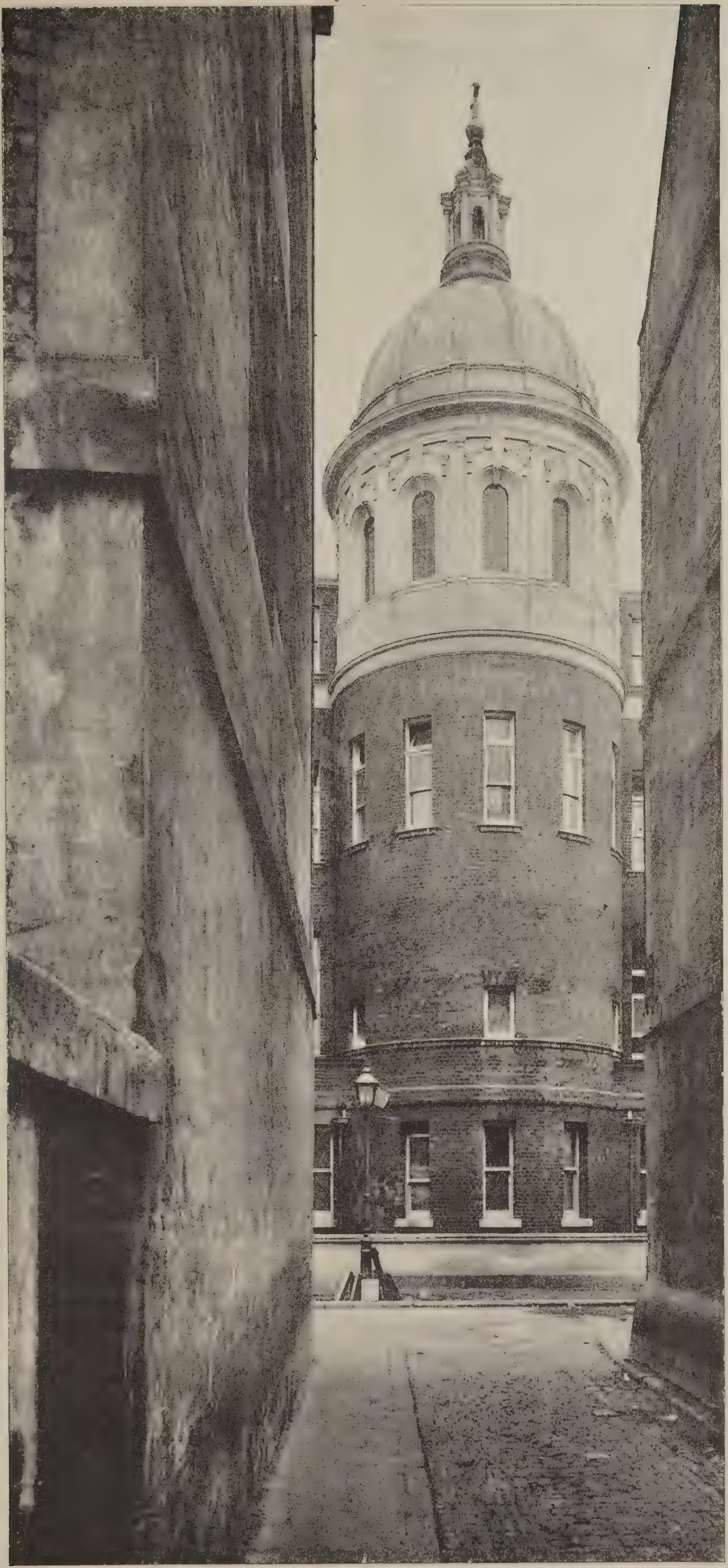

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THE DOME.

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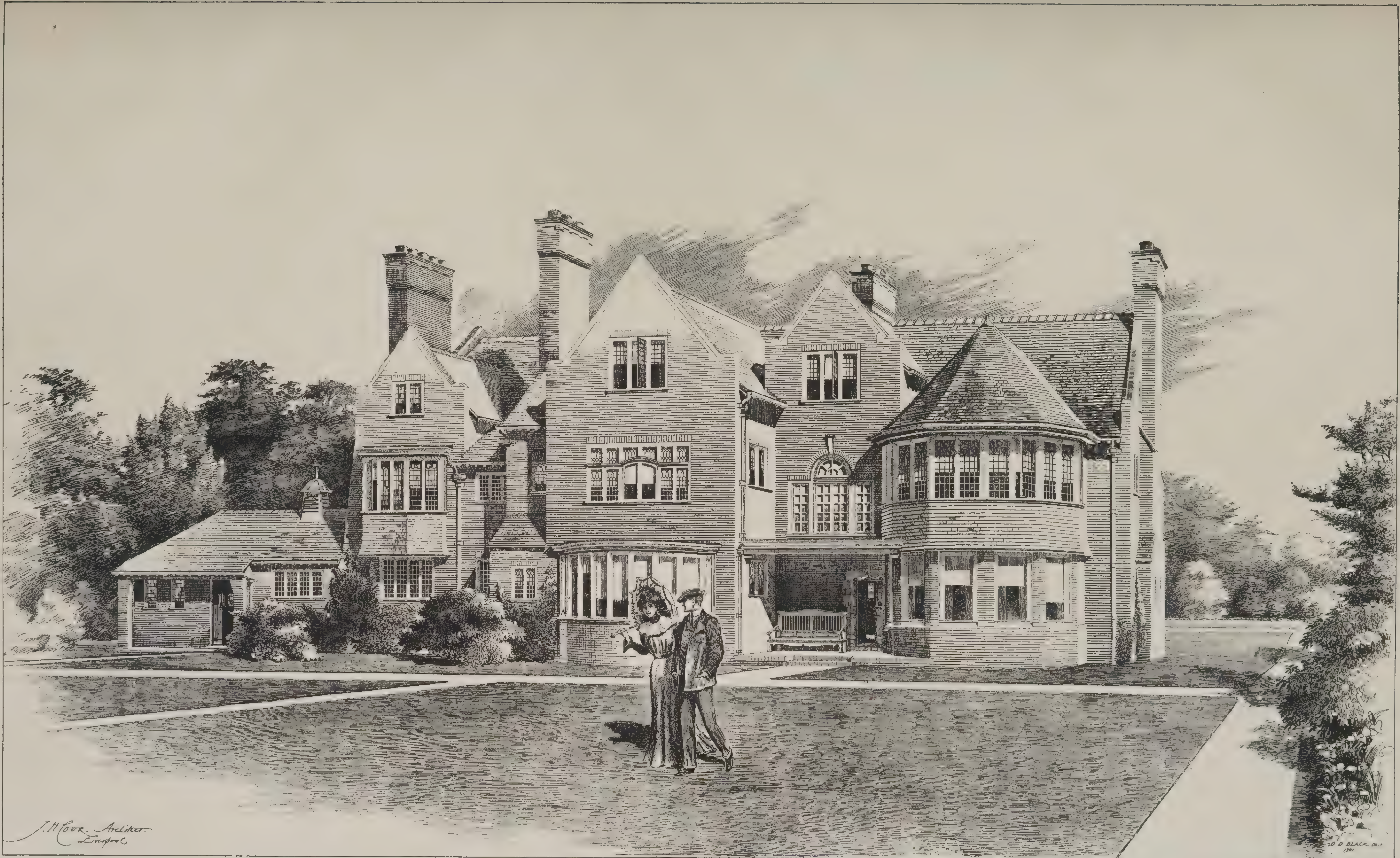
J. H. Cook. Architect.
Liverpool
D BLACK DEL.
1901

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J. H. COOK, Architect.

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The Architect.

THE WEEK.

The death is announced from Berlin of August Orth, who held a unique position among German architects. He succumbed to the effects of an operation in his seventy-second year. The confidence imposed in his skill is well illustrated by the fact that he was Geheimer Baurath, which is almost equivalent to a Privy Councillorship in all matters relating to building. His aid was sought from all parts of Prussia in order to design churches. Berlin possesses several of which he was the architect. He was considered no less capable for Romanesque than for Gothic. He held peculiar theories on the subject of acoustics, and indeed he believed that a church in which the preacher was not distinctly heard in all parts was a failure. He accompanied the Emperor of Germany on his visit to Jerusalem in 1898, when the new German church was dedicated.

On Wednesday next, the 29th inst., a meeting will be held in the Burgh County Room, Edinburgh, which is convened by the Council of the Society of Architects. The object is to consider the Bill for the Registration of Architects which is now before Parliament. On the following day another meeting will be held in the Philosophical Society's room, Glasgow. The hour appointed is 6 o'clock p.m. for 6.30 on both days. Mr. W. L. Emden will take the chair at the two meetings, and Mr. Ellis Marsland will read the paper. The resolutions which will be put to the meeting are as follows:—"(1) That this meeting cordially approves the principle of the statutory examination and registration of architects, and is of opinion that it is desirable in the interests of the public and the architectural profession to promote a Bill in Parliament for the attainment of this object. (2) That a copy of this resolution be sent to every Member of Parliament for Scotland." Similar meetings have been held in English towns.

The destruction of the Colonne Vendôme, Paris, by, it is supposed, the order of Courbet, who was Minister of Fine Arts, has left a slur on that painter's reputation. The column is only a few feet higher than the York Column in St. James's Park, but the shaft is covered with bronze reliefs, and the pedestal is adorned with trophies of arms, so that on the whole it is not unworthy of comparison with the Trajan Column in Rome. The Paris Column was erected and decorated under the superintendence of Denon, who was originally an engraver, but was favoured by Napoleon, and entrusted with the direction of the archæological researches in Egypt. About thirty artists were employed by him on the Vendôme Column. It was originally surmounted by a bronze figure of Napoleon in Roman costume, which was modelled by Chaudet. In 1814, after the fall of Napoleon, the figure was removed and utilised as material for the horse of the equestrian figure of Henri Quatre. When Louis Philippe ascended the throne there was a revival of public interest in Napoleon, as if he were the national representative. Accordingly a figure of the Emperor in the long overcoat and the peculiar hat was modelled by Seurre and was placed in position in 1833. The statue was not deemed sufficiently dignified, and by command of Napoleon III. another figure was prepared of the great Emperor, which corresponded to some extent with the original statue. The statue by Seurre was erected at Courbevoie, but under the Commune it was torn from its pedestal and cast into the Seine. It was afterwards rescued, and for years it has remained in one of the Government depôts. Public sentiment towards Napoleon is always changing in Paris, and the Commission de Vieux has passed a resolution that the figure should be brought out from its obscurity and placed in one of the museums of the city. The Government, it is expected, will make no objection to its removal. Once in Paris, it is likely to be realised that the most apposite place for Seurre's statue is on the top of the column, but no one can say how long it will be allowed to remain there.

The services which Jean Baptist Colbert as the minister to Louis XIV. rendered to France were so invaluable, it is amazing so little is to be seen in Paris which directly recalls the great administrator. The arts especially were indebted to him. He founded the Academy of Sciences, and those of Inscriptions and Architecture. The French Academy at Rome was his creation. No doubt many of the costly buildings which he suggested were intended to monopolise the king's attention, and to leave Louis little time for meddling in State affairs. But Louis was not to be controlled, and money was expended at Versailles and other places which exceeded Colbert's economical anticipations. Towards the close of his career his fate resembled Wolsey's, and he was forced to regret his anxiety to please Louis XIV. It is now arranged to adorn the Mairie of the 13th Arrondissement with probably the largest tapestry produced at the Gobelins, and which will have for its subject the *Triumph of Colbert*. The design for the work was entrusted to M. Jean-Paul Laurens, and he has nearly completed the full-sized cartoon. The Bièvre, which runs alongside the factory, is now little more than an open drain. But the painter has imagined it as being more pellucid and stream like in the days when Colbert purchased the dye-houses of the Gobelins and turned them into a great manufactory for artistic drapery. It is supposed by the painter that a statue of the Minister has been erected on the banks of the Bièvre, and a great crowd of nobles and ladies, artists and workpeople approve of it with acclamations. Arrangements will soon be made for the production of the tapestry, which will require about a dozen years to complete.

The decision which was given in the King's Bench Division on Wednesday will surprise many Government departments, but at the same time it will give confidence to many contractors, who hesitate undertaking Government contracts through fear of risks. In September 1899 Messrs. Graham & Sons, the plaintiffs, entered into a contract with the Office of Works for the erection of a post office at Stalybridge. Next year the Commissioners of Works determined and repudiated the contract, and prevented the plaintiffs from carrying it out. The plaintiffs brought an action for damages and wrongful conversion of their plant. The Commissioners' defence was that the contract was entered into by them not as a corporation, but on behalf of the Crown, and the only claim that could be made against them must be put forward by petition of right. After hearing the argument of the Attorney-General the Court gave judgment on behalf of the plaintiffs. Mr. Justice Ridley in his judgment referred to a decision by Mr. Justice Lopes, who had said:—"The liabilities of public agents, on contracts made by them in their public capacity, are on a different footing from the liabilities of ordinary agents in their contracts. In the former case, unless there is something special which would be evidence of an intention to be personally liable, an agent acting on behalf of a Government is not liable for breach of a contract made in his public capacity, even though he would by the terms of the contract be bound if it were an agency of a private nature." His lordship added that in this case the defendants contracted for themselves, and therefore were liable. Mr. Justice Phillimore, in his judgment, said the only question to be considered was whether the Commissioners of Works were within the class of officials who could sue and be sued for acts done on behalf of the Crown. There was no reason why they should not belong to that class, and in his lordship's opinion the mere fact of incorporation conferred on them the privilege of suing and imposed on them the liability to be sued. He saw no reason why their liability should be restricted to the Acts with regard to which the liability had been specifically imposed. In his opinion there was a general liability upon the Commissioners to be sued, though the Crown property, if they had any, could not be seized. These decisions may be reversed if there is an appeal, but it is to be hoped they will be allowed to stand. The despotic action of Government officials who claim to be surrounded by privileges has caused much dissatisfaction among contractors, and if the truth were known, the cost of works of various kinds is increased because of the large allowance which has to be made for the contingencies of superintendence.

THOMAS RICKMAN.*

Although biography forms a class of literature which is represented by numerous examples, it is astonishing in how few of the cases sons have endeavoured to narrate the stories of their father's lives. The reasons for the hesitation to attempt such work are sufficiently plain. In the first place, a son can hardly be expected to be impartial, and readers would have misgivings about the proportion of light and shade in the portrait. Most of the filial biographies have therefore been issued for private circulation, and in that way they are able to escape the fierce light which must be sustained by most literary ventures. In the case of Thomas Rickman it would have been well if his son's notes had been issued for distribution only among friends. Nothing can be amiss, says Shakespeare, when simpleness and duty tender it; and we should have been glad to welcome any attempt to uphold the reputation of a man whose name is closely connected with English architecture. But when a small book of about ninety pages is put before the public, which has been entered at Stationers' Hall, and for which the sum of 5*s.* is demanded, we are compelled to look on the product as a business enterprise, and to judge it as if it were an example of the operation of one of the building industries. Regarded in that light, there is no doubt that neither in quantity of matter nor in quality will the little volume of notes compare with the ordinary books which are issued every day at the same price. The author has long held a foremost position among quantity surveyors, and his thoughts are naturally affected by his science. It would, perhaps, be incorrect to say his book is a biographical schedule, but it comes as near an analysis of the work to be done in a building as is possible in anything relating to human life. We take at random one passage dealing with the year 1833, which is typical of what has to be met with on every page:—

> During the next year much of his time was occupied in the works at Tettenhall for Miss Hinckes, in houses at Bristol for Mr. E. B Fripp, and at Liverpool for George Smith and Colin Campbell, at Rugby for H S. Gipps, Esq , and at Matfen for Sir E. Blackett, some of which were subject to great variations. The church at Nineveh was completed, as was that at Haigh-and-Aspul. That at Tockholes was nearly finished, the Roman Catholic chapel at Redditch was also nearly completed. St Matthew's, Kingsdown, Bristol, was commenced. The design for Stretton Church was much reduced. For Hartlebury, tenders were received. Works were carried on at Trinity Church, Coventry. Designs, probably in competition, were made for courts at Worcester. The Birmingham Free School was given to Barry. He was consulted on the progress of the Town Hall, Birmingham, and on the Judges' lodgings, Warwick. A final settlement was made of the accounts of Rose Castle. He reported on Darlaston Church, Hewell, for the Earl of Plymouth ; Soham Church and parsonage, Shrewsbury Shire-hall, Baverstock Church, Eccleshall Church tower, Henbury Church, Elmley Lovat Church, Himley Church and Great Oakley rectory. He measured for the contractors the Infirmary, Carlisle, and wound up the accounts at Weston Hall, and prepared designs for a house at Dumfries for W. Maxwell, Esq., and a variety of private matters.

To the majority of purchasers the names convey little meaning, and in consequence the reading of even eighty pages of such a compilation becomes a toilsome task. The reader cannot discover what the catalogue is intended to prove, for it does not indicate whether Thomas Rickman was advancing as an artist or the reverse. In a biography growth or decline must be expressed, but in this case there is nothing to indicate the goal. The mention of so many buildings for one year, and it is only an average one, may be a surprise to those who have heard of Rickman only as a writer. At the time of his death it was stated there was probably not another architect who was engaged on so many churches. He gave a list in the fourth edition of his "Attempt," but it only came down to 1835 and was incomplete. But mere lists are inadequate to enable us to gauge an architect's value. His partner, R. C. Hussey, was expected to publish an illustrated catalogue of Rickman's buildings. That duty should have been undertaken by Thomas Miller Rickman. He had merely to mention that he desired photographs of certain buildings, and architectural students throughout the country would have furnished him with abundant snapshots. A selection from the views could have been published and then a record was created which would be sufficient to prove that Thomas Rickman's ability was not confined to the production of an essay on architecture. Even if the profits derived from the sales at five shillings per copy were diminished, the gratification of having accomplished a filial duty should be more than compensation for the financial loss.

We have also said that the quality of the book is not equal to that of the average 5*s.* volume. In making out quantities it is not an advantage to have an extensive vocabulary; the same class of work should be described by the same words from beginning to end. In the "Notes" the treatment corresponds with the ordinary bills of quantities. The extract we have given begins with "During the next year." The words "during the year" are repeated countless times in the pages, and the dullest reader must eventually grow weary of the iteration. The phrase is used so indiscriminately, it is needless to say there are numerous cases in which it is out of place. "During" has reference to continuance. It is correct to say "During the year Rickman was very busy," but when we come across such sentences as "during this year the accounts for Barnsley Church were settled. During 1809, on October 20, to Fawcett's foundry, to see it illuminated with gaslights. During 1810, on February 11, this morning has happened one of the most terrific permissions of Providence, the falling of the tower and spire of the old church," we have transient phenomena converted into continuous. The use of words and the manner of expression in the "Notes" are calculated to show how vain are the expectations of those who imagine that by attending meetings of societies, reading papers and delivering addresses, literary skill is to be acquired.

The shortcomings of the book as a biography are more emphasised by the fact that the author had an example before him which was sufficient to serve him as a guide. R. C. Hussey, who during five or six years was Thomas Rickman's partner, "left in my hands," says Mr. T. M. Rickman, "the draft of a notice of his life, and any biographical notices which have appeared have, I believe, been based on this notice." Why was not so valuable a composition reprinted? Is it because Mr. T. M. Rickman felt it came nearer to a portrait of his father than the long series of disjointed notes which he was engaged in compiling? We are not under the influence of such fears, and we therefore give Mr. Hussey's sketch, which was dictated as much by affection as by admiration :—

T. M. Rickman.

This gentleman, whose death took place recently at Birmingham, was the eldest son of Joseph and Sarah Rickman, and born at Maidenhead on June 8, 1776. His father was by profession a surgeon and apothecary, and Thomas, being originally intended for the same business, commenced his medical education on leaving school as assistant to his father. In this capacity he continued till the year 1797, when his parents quitted Maidenhead. He then removed to London and became assistant first to Mr. Stringer, chemist to the royal family, and afterwards to Mr. Atkinson, a medical practitioner in Jermyn Street, with whom he remained for more than twelve months ; but the close confinement which the medical profession exacted from him not being congenial to his active and energetic disposition, he relinquished it, and engaged himself as assistant in the establishment of Messrs. Day & Green, extensive grocers at Saffron Walden.

His parents having now settled at Lewes, his father's native town, he was urged by them to complete his medical education, that he might be able to give his father the assistance which he needed in his profession. With this request he complied, and after going through the usual course of instruction at the London hospitals he joined his parent at Lewes about the year 1801. Here he continued for two years engaged in the more laborious part of the business, which he conducted with credit and assiduity. But with this occupation he was not satisfied ; he therefore about the end of the year 1803 finally relinquished medicine, and having among other acquirements (in most of which he was self-taught) made himself acquainted with practical book-keeping, to which he ever continued partial, he returned to London and became clerk to a corn-factor. Subsequently he joined in this business as a partner, but the partnership being dissolved in the year 1808, he quitted London and removed to Liverpool. About this time he had the misfortune to lose his wife, Lucy Rickman, his cousin, of

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* *Notes on the Life and Several Imprints of the Work of Thomas Rickman, F.S.A., Architect.* Collected by his Son, Thomas Miller Rickman, F.S.A. (London : G. J. W. Pitman.)

Lewes, whom he had married about four years previously, but by whom he had no family.

At Liverpool he soon obtained a responsible situation in the counting-house of one of the principal insurance brokers—a post which required his attention only during a limited number of hours in the day, and therefore left him considerable leisure to prosecute that pursuit for which he had long shown a strong partiality—the study of architecture.

It was while thus engaged at Liverpool that Thomas Rickman began that series of minute investigations into the characteristics of Gothic architecture which formed the basis of his future reputation, and which enabled him in the course of a few years to appear as a leader among those who sought to revive the principles and purity of that beautiful style. Every opportunity of examining an ancient building was seized with avidity, and his passion for architecture growing stronger by indulgence, he soon began to draw designs for monuments and other small erections for his friends, and occasionally even larger buildings. He had now married his second wife, Christiana Horner, sister of the late Benj. Horner, of York, and of Thomas Horner, well known for his Panorama of London; but he lost her in her confinement, about a year after the marriage, and soon afterwards the infant to which she had given birth.

When the Parliamentary grant of a million was made for the building of additional churches, Thomas Rickman became a competitor for the premiums offered by the Commissioners for the best designs, and having on one occasion been successful in gaining the first prize, he was summoned to London to enter into arrangements for carrying his design into execution He was now therefore reduced to the alternative of either abandoning the respectable certainty which his present situation promised and of embarking in an entirely new course, or of relinquishing the idea of carrying his plans into effect, and at the same time all hope of deriving substantial advantage from his favourite pursuit. The course which he adopted is evinced by the celebrity which he speedily obtained as an architect.

After this change he continued to reside a few years only at Liverpool, when, finding his employment increasing in all parts of the kingdom, he removed to Birmingham as a more central situation, and remained settled there till the time of his death. For several years he had the assistance of Mr. Henry Hutchinson, who was first a pupil and afterwards a partner in the business; but on his death in 1830 he conducted the whole, with the exception of a short interval, by his own exertions till the end of the year 1834, when he formed a connection with another gentleman (Mr. Hussey), whom he had previously known as a friend.

In the year 1835 he married his third wife, Elizabeth Miller, of Edinburgh, who, with one son and daughter, survives him.

In the month of March 1834 he was first attacked by an apoplectic seizure, and from that time, though with many fluctuations, the inroads of disease continued gradually to undermine his originally strong constitution; and the necessarily severe remedies that were applied to counteract the more immediately dangerous symptoms of his principal disorder ultimately bringing on other complaints, he became so reduced that for the last seventeen weeks of his life he was confined to his room, and for the greater part of that time to his bed; till, on January 4, a little after seven o'clock in the morning, he quietly sunk away. He is buried in St. George's Churchyard in Birmingham, near the western end of the building, which is one of his own early churches.

Thomas Rickman was originally, like his parents, a member of the Society of Friends, but he relinquished his connection with that Society a few years before his death. His bodily constitution, till attacked by disease, was most robust, and capable of enduring an extraordinary degree of fatigue. His mental powers were very great, and in all his pursuits he was most energetic and persevering—a keen observer both of nature and art, indefatigable in his investigations and quick in his perceptions. The fund of information he had collected, coupled with the vivacity of his disposition, rendered him a most agreeable companion, especially to those who by long intercourse had the opportunity of drawing out those stores of knowledge which his unostentatious habits never allowed him to obtrude

The buildings which he erected are to be met with in nearly every county, but among those which are most admired may be enumerated the new buildings of St. John's College, Cambridge, and the churches of Oulton, near Leeds, in Yorkshire, and Hampton Lucy, in Warwickshire.

His treatise on "Gothic Architecture" is known to all, and the estimation in which it is held is best shown by the rapidity with which the several editions have sold.

The success of Thomas Rickman, which is referred to in the last paragraph of Mr. Hussey's memoir, was as remarkable as any in the history of literature. Thackeray was envious of the wonderful success which in the eighteenth century a lad at Christ Church or Trinity could attain by a neat copy of verses relating to some political event, and which the party in power rewarded with the utmost despatch and liberality. Thomas Rickman was a clerk in Liverpool, and was a member of a sort of mutual improvement society. He lectured occasionally on architecture to his fellow members, and he contributed an essay to a local publication known as Smith's "Panorama of Science and Art." This dissertation occupied from page 125 to page 181 in a number. It reappeared in 1812 in a separate form, but apparently for private circulation only, for on the back of the title-page was written, "The author has had a few copies struck off separately with a view of saving the trouble of transcription." One or two corrections were made in the reprints by his own hand. For instance, a piscina had been described as intended to carry off the remains of the consecrated wine, and the word "water" was substituted. Thomas Rickman was then a member of the Society of Friends, and as such he was supposed to be handicapped as an ecclesiastical architect; but the influence of the "Attempt" was sufficient to gain for him the patronage of the bishops and clergy in the Established Church, who were not afraid to trust him with the erection of buildings, although his practice as an architect appeared to be that of an amateur who designed warehouses and workshops in his spare time for his friends.

Nor could it be said that his essay was the first to reveal the beauty and fitness of Gothic. In the essay there was one plate of Classic and one plate of Gothic details, but Rickman was able to refer to a number of works as already existing, and which could supply the deficiencies that were inevitable with his mode of publication. They included the cathedrals, &c., published by the Society of Antiquaries, Carter's "Ancient Architecture," King's "Munimenta Antiqua," Halfpenny's "Engravings of York Minster," Buckler's "Views of the Cathedrals," Britton's "Architectural Antiquities," Storer & Greig's "Illustrations of Pennant's London," "Antiquarian and Topographical Cabinet and Ancient Relics," Lysons's "Magna Britannica," Britton & Brayley's "Beauties of England," "Archæologia," and Chalmers's "History of Oxford." Among so many excellent works what chance was there for Rickman's essay? The answer has been supplied by De Caumont, who described the "Attempt" as containing a wide variety of information upon the monumental statistics of England, and an enumeration of the characteristics which distinguished the principal varieties of architecture in that country. In other publications as much information might be found, but it was not furnished in so concentrated a form, by which the acquisition of knowledge was supposed to be rendered more easy.

The manner of treatment adopted by Rickman would have been of little account if a new spirit were not abroad, by which the Mediæval architecture of England was surrounded by an unprecedented glamour. In 1805 Walter Scott published "The Lay of the Last Minstrel," and it was followed in 1808 by "Marmion," in 1809 by "The Lady of the Lake," and there were some other writers who also endeavoured to recreate the Gothic period. In 1812 the time was ripe for the production of an "Attempt to distinguish the styles of architecture from the Conquest to the Reformation." The styles in question were described as Norman, Early English, Decorated and Perpendicular.

An impetus was also given to the erection of Gothic churches by the grant of a million of money by Parliament. Rickman was fortunate in being accepted as a regular architect. In 1818 he was able to give up his clerkship, and in 1820 he removed to Birmingham as a more central position from which to direct his operations. It was not long, however, before the Commissioners grew dissatisfied with his work; there was in 1820 an announcement that not more than four churches should be undertaken by him, and his drawings for the Manchester church were rejected, as it was alleged they were unskilful. Rickman was afraid there was some adverse influence working secretly against him, but he was assured one did not exist. In 1821 he was able to take H. Hutchinson into partnership, and in their first year they are said to have prepared nearly 1,000 drawings. Most of his churches were Gothic in style, but those of Dale End and Holloway Head in Birmingham were Classic. A fire in the former building caused much inconvenience to the architects.

Indeed, it must be allowed that RICKMAN's success did not spare him from the infliction of more than the average amount of trouble. Accidents in buildings must have been familiar to him; he had also to make frequent journeys in a post-chaise and was several times overturned. Social difficulties also arose. The Society of Friends were dissatisfied when he began to design churches, but we are told that on explaining that his interest in them was dictated by business the offence was overlooked. This we can hardly accept as credible. There was another remonstrance against his attending the consecration of his own churches, which was considered, from the encouragement it showed to superstitious rites, to be a greater evil than attendance at church on ordinary occasions. He continued, however, to be diligent at the meetings. Then we learn that he entered into communication with the followers of Mr. IRVING. Finally, it is recorded that he became a member of the Catholic Apostolic Church and separated from the Society of Friends. There were also family troubles. His brother EDWIN was a cause of much affliction. From time to time illness attacked THOMAS RICKMAN, but he was too busy a man to give the necessary attention to his own ailments, and the report of the examination which was made after his death is an instance of the force of character which enabled him to follow his business regardless of the consequences to himself. It says:—

> We found very extensive disease of Mr. Rickman's body, viz. the liver was greatly enlarged, and had undergone a change into what we call medullary sarcoma, or brain-like deposition, large masses of which occupied the place of healthy structure; there was an adhesion between the colon and the liver; the kidneys were fast undergoing the change to fatty degeneration; there was a large cavity or cist in the brain, the result of some former attack; the arteries of the head were in the first stage of ossification; in fact, it was astonishing how he could have existed so long with such a mass of disease.

It was easy to see in the doctor's statement the effects of continuous overwork on a constitution that was never perhaps free from disease. The buildings on which he expended his bodily and mental energy are scattered throughout the country, and few are able to recognise them amidst the crowd of later works. On that account it is desirable, before the history of his buildings has been forgotten, that some illustrated record of them should be prepared. They may not all be models of the highest class of Gothic, but apart from their authorship, they are of interest as showing the state of architecture between 1820 and 1840. That duty should have been undertaken by Mr. T. M. RICKMAN, and it is unfortunate that he should have published a biography of his father without the smallest sketch to illustrate the character of any one of the churches erected from his designs.

We can obtain an idea of the impression which THOMAS RICKMAN made on men who were competent to understand him from one of the letters of Professor WHEWELL, who, writing from Caen in 1832, says:—

> My companion (Mr. Rickman) is a grave, business-like, oldish Quaker, a married man and the father of a family, who is also a very remarkable figure in his way. He wears the Quaker dress, which of itself would draw some notice here, and being a little round, fat man, with short, thick legs, and a large head, he sets off the dress to advantage. It is a difficulty for me to saunter along as slowly as he walks, and as besides he is perpetually running from one side of the street to the other to peep into whatever catches his attention, our motions are very irregular and apparently ill-connected, and we seldom move far without the honour of some special spectators. Notwithstanding this, I like my companion very much. He is very good-humoured, and very intelligent and active, and I see more by travelling with him than I should do alone, besides understanding the architecture much better. We are going to set off to-day or to-morrow for Bayeux and Coutances.

The expedition was marked by one amusing incident. WHEWELL and RICKMAN were arrested by the National Guard as dangerous people, who, without permission, had made drawings of churches; but, fortunately, after some delay they were brought before a maire who possessed good sense and dismissed the charge. WHEWELL also describes another tour in Northamptonshire, to see churches which RICKMAN considered were erected prior to the Norman Conquest. Finally, in 1835, WHEWELL describes a visit to his fellow-traveller in Birmingham, who, it appears, had been very unwell, and was still obliged to take great care of himself. The description of RICKMAN furnished by his partner, Mr. HUSSEY, supplements WHEWELL's notes, and reveals his artistic capabilities and shortcomings:—

> In person Thomas Rickman was rather below the middle height, inclining to corpulency, with a rather large head and a very short neck. His features were not refined, but the expression of his countenance was pleasant, especially when animated by lively conversation, which he always heartily enjoyed. His temperament was quick, but without acerbity, and although he was sometimes under sudden provocation roused to anger, the irritation generally immediately subsided and left no taint of bitterness. His vision was affected with colour-blindness, and he always (while I knew him) acknowledged himself unable to distinguish colours correctly; he seemed especially to confound green and red, and I have known him when looking at coloured objects ask if the latter colour was not green; from this it may be inferred that at some earlier time of life he had seen colours differently. Before his health began to fail his bodily powers of endurance were very great, and he could without material inconvenience pass two nights of three in travelling. He often undertook excursions expressly to visit ancient buildings, and the journeys required in the exercise of his profession were habitually made subservient to the same purpose; he usually travelled in post-chaises, and his custom was to diverge on both sides from the direct road to all old buildings within moderately easy reach. As a draughtsman his ability was limited, and, strange as the assertion may appear, he was not fully conversant with the minute details of Mediæval architecture, and he acknowledged that if he had to begin his investigations again he should pay more attention to them than he had done; it is fortunate, however, that he was not drawn away from the mode of investigation which he followed, for had his observations been diverted from the broader and more important features to minute peculiarities he might have failed to elicit the distinctive characteristics of the successive styles with the clearness and precision with which they are described in his book.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. Wm. Emerson, president, in the chair.

The President said he regretted to announce the decease of Mr. Arthur Cates, one of the oldest and most valued members of the Institute.

Mr. John Slater moved that a vote of condolence should be sent to the family and relatives of their deceased member. The speaker said he had had during the last ten years more opportunities of seeing the better side of the late Mr. Cates's characteristics than those who only met him in an official capacity. Mr. Cates was a strong man all round, a little too prone, perhaps, to show and use his strength. His heart was kind, and many young architects owed a debt of deep gratitude for advice given them unostentatiously by him. Mr Cates was not only an able man, he was also very learned, and those who had met him were struck to see the evidence of the very wide range of his reading and learning. The interest he took in the Institute was so great that it would require lengthy enumeration; but it would be well to mention the fact that but for his efforts the Institute professional examinations would never have been started.

Mr. Wm. Woodward and Mr. T. M. Rickman also spoke, and the vote of condolence was passed in silence.

Mr Alexander Graham announced the decease of Mr. Ebenezer Gregg, who was elected a Fellow in 1870.

Professor W. M. FLINDERS PETRIE read a paper, illustrated by lantern views, on

The Sources and Growth of Architecture in Egypt.

He said that in no respect was our view of the origins of the arts more enlarged than in the architecture of Egypt. Ten years ago we were starting with the most highly-finished work of the Fourth Dynasty, the great pyramid of Khufu, and were groping in the dark for any clues to the growth of such surpassing construction. To-day it can be shown how every feature arose, and the adoption of stone for building can be dated to a single generation. The unwrought materials, which were everywhere to hand in Egypt, were palm-ribs, papyrus, reeds, maize-stalks and mud, together with palm-fibre roughly twisted.

A striking sight of the beginnings of the building art may be seen any day in a nomad settlement on the desert edge. Side by side stand (1) a black goat-hair Arab tent, long and low, open always on the leeward side; (2) a tent fenced along part of the open side with a row of maize stalks; (3) a tent fenced all around with maize; (4) a tent in a maize fence mud-plastered; (5) a dwarf wall of brick round the fence; (6) a high brick enclosure with a tent inside to roof it, the tent ropes stretching out through the wall; lastly, a roof is put on the wall and the tent has disappeared.

The early Egyptians seem, however, to have usually roofed their reed huts with domed roofs, to judge from the engraving of a hut on ivory, at the rise of the First Dynasty (4,800 B.C.) The best feature is the strengthening of the corners of the hut by placing at each angle a bundle of reeds lashed together, as seen in the hut on the mace of Narmer. Here we have the origin of the torus-roll down the edges of the buildings, used till the latest stage of the architecture. The lashing together was always retained as an ornament, although the meaning of the roll was long lost.

When papyrus stems were used for walling instead of reeds or maize stalks, the top was rather weak if stripped of its leaves; hence they were retained and bound together, and the feathery tops served as a barrier above the wall, and finally as an ornament.

Besides these materials, palm-ribs may be seen still used for fences. They are set upright with all the leaves on them, at a few inches apart, and strengthened by other ribs interwoven diagonally each way; just below the weak part of the tip a line of ribs is lashed on with palm-fibre, and the loose nodding tips serve as an effectual barrier to men and animals. The whole is finally plastered with mud up to the top lashing, and forms a very strong fence, which will last for many years. Such a fence or wall is figured as the front of an early shrine hieroglyph in the Fourth Dynasty.

Translated into stone, this became the constant feature of every Egyptian building, and this cornice retained to late times the palm-leaf ribbing which proclaimed its origin.

We have preserved to us some views of simple shrines made of the natural materials, similar to the huts of maize stalks still used by the peasant. Here we note the roof sloping backward, and carried on far before the open front, so as to cast a shade, while it is supported on two front pillars of stalks. This was the original type of the rustic shrine adopted as a hieroglyph, and preserved to us from the Fourth Dynasty.

The next material to be noticed is mud-brick, one stage beyond the rough mud plastering. Brick houses and town walls remain from the prehistoric age, probably about 6000 B.C., and a model of a town wall, with watchmen looking over it, belongs to a rather earlier time.

Regular brickwork developed in use in the prehistoric time and some arched brick tombs are probably of this age. There can, however, be no doubt of the barrel-vaulted passage in the tomb of King Neter Khet (found this year) belonging to the beginning of the Third Dynasty (about 4200 B.C.), and the magnificent brickwork and arching of the Fourth Dynasty (about 3400 B.C.) shows a long familiarity and free use of it.

Coming to wrought materials, wood was the earliest in use for construction. The prehistoric graves were often lined with matting, and this was in the later prehistoric age sometimes supplanted by a wooden lining. In the royal tombs at Abydos (4700-4500 B.C.) all of the wooden sides have been destroyed; but the evidences remain most clearly on the cross walls that they were built to form cells around the wooden chamber for the offerings. These walls are plastered and whitewashed on the sides, but the ends are all rough brick, evidently built against a pre-existing timber wall, as the mud mortar has taken the cast of the grain of the wood wherever it touched it. The floors were usually of wood; one of the most complete shows the boards about 2 inches thick, resting on beams at the sides and down the axis of the chamber. The roofing was also of wood, as in some cases the casts of the rough-hewn ends of the roofing beams remain in the brick walls of the chamber. The author referred to the tombs of King Qa (4650 B.C.) and Ring Zet (4600 B.C.), and gave details of their construction. This form of construction is the forerunner of the greatest architecture of the Pyramids. For the wooden chamber we find a stone chamber substituted, and the beams of the roof are of limestone or granite in place of wood. But the continuity of the general form and system is unbroken. The earliest royal tombs are plain pits roofed in, as in the prehistoric time. By 4650 B.C. a wooden lining forms a complete chamber, with brick cells around it, but no entrance. Under Den-Setni, 4600 B.C., an entrance stairway is added on the east side. Under Qa, 4500 B.C., the stairway is turned to the north; and the steps from this to the usual pyramid form a north entrance passage sloping down to a chamber; it is merely a change of material, but not of form or position. The external form of the mastaba tomb from which the pyramid was developed (or rather on which the pyramid was superveloped) is exactly that of the rectangular mass of sand above the tomb, held in by the retaining wall of mud-brick, with a large external batter as over the tomb of King Zet.

The author, having referred to the favourite lattice-work, the analogue of the mushrabiyéh work of Cairo, went on to trace the course of stone working. The first actual building of stone is the pit chamber of King Khasekhemui, in the middle of the Eleventh Dynasty, about 4350 B.C. The limestone courses are tolerably regular, varying 1 or 2 inches either way. The faces of the blocks follow natural cleavages as far as possible; but most of the faces are hammer-dressed, and then adzed over to level them. The joints have plaster in them, and also spread over the open joints on the face. The same king also worked in grey granite, as two large building blocks with inscriptions of his have been found at Heirakonpolis and at El Kab. But building in limestone was still rare, and it is probably to the latter half of the Second Dynasty, about 4350-4200 B.C., that must be assigned a series of rough stone pyramids, which stand at El Amrah, Nubt and El Qula. These are all built of unhewn blocks found loose on the desert and cliffs. Each has successive faces of external finish, which have been coated over with added masonry.

The author next described the fine tomb of King Neter-Ket, probably second king of the Third Dynasty, about 4200 B.C.; the great stone pyramid of Saggara, probably of the same date; and the tomb of King Seneferu at Medum (4000 B.C.).

It is important to see clearly how the pyramid structure is derived from the wooden tombs in unbroken succession, as it has by some been derived from the dolmen and chambered burrow. These structures are quite unknown in Egypt: whereas the continuous stages between the prehistoric pit-grave and the greatest and most accurate structure ever built are clearly traceable. Even the preparation for a pyramid remained just the same as for the wooden tombs of the First Dynasty.

The author concluded with some notes on the subject of pillars.

The wooden column appears as an octagon in the models found in the First Dynasty, and in the actual pieces he had discovered in the Twelfth Dynasty, and the copies of such in stone at Beni Hasan. The fluted wooden column is found copied in ivory in the First Dynasty tombs, and is well figured as a hieroglyph in the Fourth Dynasty.

The most peculiar form of column is that derived from the tent-pole. This was the origin of the strange form known as the inverted bell capital in the Eighteenth Dynasty at Karnak.

The earliest example known of the lotus column is of the Fifth Dynasty (about 3600 B.C.). The later examples of the Twelfth Dynasty, of the Eighteenth Dynasty and of the Nineteenth and Twentieth Dynasties show only a series of lamentable decadence. Each age in Egypt had its special excellence. In the Eighteenth Dynasty a delicate and freely flowing ornamental treatment; in the Fifth Dynasty the finest figure sculpture; in the Fourth Dynasty the grandest constructions; and in the First Dynasty the most lavish use of hard stones for hand objects and table furniture. Diorite, porphyry and such materials were cut in thin and beautiful forms with a familiarity which was never known in later times. But every branch of art, when once it had fully grown, decayed rapidly, and the later work in every respect cannot bear comparison with the older triumphs.

Professor Aitchinson, R.A., proposed a vote of thanks for the paper and for the extraordinary information showing how Egyptian architecture was entirely the outcome and development of simple construction. It was unnecessary to say more about Professor Petrie's discoveries in Egypt, as they were so well known and appreciated by all.

Sir L. Alma-Tadema said Egyptian architecture was like Egyptian civilisation. They always believed Egypt was one of the favoured nations that came quite full grown into the world. This he believed for many a year, although he could not admit it as a truth. The periods of time seemed tremendously long as compared with nowadays, dynasties extending over thousands of years, but in the slow progress of art they always had a parallel. The Egyptians themselves were very much akin, and they as artists felt so much more interested in that civilisation and art because it was so essentially human in its development. They were indebted to Professor Petrie for having lifted up the corner of a mystery of that great civilisation and power of the human development, and he had great pleasure in seconding the vote of thanks.

Sir Martin Conway said it had occurred to him how frequently new architectural styles arose from the imitation in one material of forms devised for another. Just as in Egypt so in Greece and in the present day. In the modern great buildings of metal the architectural forms were all imitations of decoration in old stone buildings. It was well if style was developed through precedence that they had a representative of England capable of making such investigations into the traditions of the past combined with scientific knowledge. They were therefore especially thankful to Professor Petrie not only for making the researches, but for publishing the results so soon afterwards.

Dr. A. S. Murray, Mr. R. Phené Spiers and Mr. H. Stannus also supported the vote of thanks.

GREAT TANGLEY MANOR.*

IN my short travels, which I have from time to time taken, I have had the various forms or styles of architecture pointed out to me; but on the last little journey I took I think I looked upon the earliest existing dwelling of man, though probably not the first method adopted by him as a means of covering or housing himself: I speak of caves scooped out of the side of a soft chalk cliff, and the photos I have shown were taken in the village of Inkerman, in the Crimea, close by the Monastery, and it occurred to me it would be interesting to trace how men lived. Man was originally divided into four classes, so we may assume hunters, shepherds, tillers of the soil and fishers. Hunters probably dwelt in clefts in the rocks; fishermen in caverns by the seashore; shepherds inhabitants of the plains, wandering from spot to spot as pasture became inadequate, would take sticks and branches, and thus form themselves a rude portable covering; but the agriculturist would require a more permanent structure, because not only would he use it as a dwelling but also for storing his grain through the winter, so he would probably take a few saplings, fire them down, and then with the aid of reeds, branches, bark and mud erect a dwelling, and thus start the foundation of a style or order, a wooden dwelling, the perfection of which we have seen to-day. In the Kabyle country, North Africa, between Algiers and Bongie, but more in the interior, they still build with sticks and branches; in the desert of Sahara, near Biskra and Sidi Okba, of sticks with canvas. To come near home again, in the Middle Ages Surrey, Kent and Sussex were covered with forests of timber, notably the vast tract in Kent and Sussex called the Weald, or wooded country; Well Street or Wood Street = the street running through the woods. In this district local names terminate times without number in hurst, ley, den or field. The hursts were the denser portions of the forest, the leys the more open, the dens the valleys, and the fields patches where the trees were felled. In Kent alone there are names ending with hurst 33, den 42, ley 22, field 19. Small wonder then that with such wealth of material the houses called timber houses should still exist. Wood offers such facilities of construction that with the invention of tools of flint to supersede firing for felling purposes it soon became used for better and more substantial buildings; then followed tools of iron, and step by step unrecorded inventions were brought out. Simultaneously for smeared mud sun-baked tiles and bricks were used, then wood, then stone, and then marble and other choicer stones. The period at which worked stone was used is unknown, as also that of cement as a medium for uniting masonry. The advent of the Romans made a great change in Britain; not only did they build a number of solid structures for their own use, but they taught the craft to the Britons, together with civilisation. To such an extent had building progressed, and the knowledge extended, that we are told buildings everywhere abounded—towns and well-built villages, forts and stations, so much so that in the third century this island was famous for its builders, and we are told that Constantine, when he rebuilt Autura in Gaul (A D 296), employed as his best workmen men from Britain. Now, seeing that we have proof of this, that stone, brick and tile were alike used in the third century, why in the fourteenth and fifteenth do we find places were built such as the one we have this day visited? and here is my reason for introducing what might have been extraneous matter to our subject of to-day. The departure of the Romans and of the arts introduced by them occurred at the same date as the arrival of the Saxons, who soon extinguished the very little knowledge of the arts that remained. The Saxons had been used to hovels and dug-outs, as our friend Baden-Powell would say. On the authority of Bede there was a time when not a stone church existed in all the land, the custom being to build of wood

We now rapidly pass on to the much later period of building, that of the late Tudor, better known as Elizabethan or sixteenth century, which, for the present purpose, is most interesting; and although the name "Elizabethan" is associated with the queen, she does not seem to have set any great example in building, except that of building a great name as a great queen, a wise ruler and a virtuous woman, lovely withal; and with the exception of a gallery at Windsor Castle no building was done by her; but she in her time slept in more buildings made by others than any woman of like virtue.

Great Tangley Manor, the objective point of our ramble to-day, is as you have found by your walk about three miles from Guildford, and unless one were really seeking the same, might well be passed by under ordinary circumstances; but we have sought it, and by the courtesy of its owner seen it, to whom not only are we under an obligation for his courtesy in allowing us the privilege, but to him also we owe a far greater debt, for he it was who saw an old farmhouse with stables and farmyards, cowsheds and probably poultry and pigs running through it, and now shows it to us to-day as a place that even old England may well be proud of it. It is of known antiquity, for in the Losely MSS. so mysteriously found, as you remember I mentioned in my last year's paper, it states, "Here was a homestead in the days of the Saxons." But to start at the historical sketch. After the Conquest William gave the manor of Bramley or Brunlie, which included Tangley, to his half-brother, Odo, Bishop of Bayeux, and on Odo's death it reverted to the Crown, and by Henry II. it was bestowed on Ralph de Fay, who soon forfeited it to the Crown. In those days the game of forfeits was very popular with kings and their favourites. But King John restored it to the De Fays, and a second Ralph became the owner. His son John died without issue in 1241, and the Bramley manor was divided between his two sisters, Maud and Phillipa, and Maud's portion became known as Tangley Manor. Maud's husband was known as Herman de Tangley, and by the marriage of her daughter Matilda in the reign of Henry III., the estate passed to Olderic de Weston. Once again the property reverted to the Crown, and in 1306 it was granted by Edward I. to Walter de Geddyng, sheriff of Surrey and Sussex, and 1313 it is recorded that his son Thomas gave the king one penny in lieu of a pair of gloves for his relief of the estate. By a later Walter de Geddyng the property was conveyed to Stephen de Froylesbury, who in 1338 granted it to Thomas de Weston. In the reign of Henry VIII. the owners were the family of Bartlett or Birley, and by them it was sold to Richard, a younger son of Sir John Caryl, of Warnham, in Sussex. John, the last male heir of the Caryls, died in 1656, and the manor passed to his daughter Letice, wife of John Ramsden, from whose successors it was conveyed about 1678 to John Child, of Guildford, from whom it passed to his brother Leonard, an attorney of Guildford, who was succeeded by his nephew, John Child. His sister's son, Charles Searle, inheriting the property, sold it in 1759 to Sir Fletcher Norton of Wonersh, knight, who was afterwards created Baron Grantley, of Markenfield, co. York. On the sale of the Grantley estates, 1884, it became the property of Mr. W. Flower.

Now John Caryl added in 1582 the beautiful half-timbered front which we see; the date then carved still remains, and is seen in four places on brackets of oak, which are beautifully carved and support some quaint lattice windows which overhang the Tudor arch of the entrance, and other places in front.

There are no buildings at Tangley more ancient than this one, but there are foundations within the area surrounded by the moat of immense strength and of far greater antiquity; so here we have an object lesson of a stone structure being succeeded by a wooden one. But previous to 1582 the original building stood, and at the end of the great hall of Henry VII.'s time are the supports of the then minstrels' gallery; these are now to be seen in the chamber over the sitting-room of the present house.

The diamond-shaped window panes bear evidence of various visitors to the house. In 1641 John Evelyn scratched his autograph there, and in his diary for May 12 of the same year he writes that after witnessing the beheading of Lord Stratford he went to Gravesend, accompanied by Mr. Caryl, to take the first opportunity of a passage to Holland.

The quaint covered way was added in 1886, and the library and rooms over it in 1897. When the moat was cleared a Roman coin was found, date of Lucius Verus, Roman glass and pottery, iron and stone cannon-balls, spurs and various other articles of great antiquity.

The enclosing walls are old, those parts on the south and east being of the time of Elizabeth, and are loopholed for defensive purposes, necessary doubtless in those days in so secluded a spot.

In conclusion, the gardens are laid out on the ideas and not plans of the present owner, who, to get natural beauty, superintended the work himself and developed as he went on.

My thanks are due to Mr. Harradence and Mr. Quartermain for the assistance they have given me, and such information as may be of any value contained in this paper.

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* A paper read before the members of the Upper Norwood Athenæum by Mr. Charles Wheeler at Guildford on May 11.

CHURCH BUILDING AND ARCHITECTURE.

THE annual general court of the Incorporated Church Building Society was held on the 18th inst. at the Church House, the Archbishop of Canterbury presiding.

The Rev. W. B. L. Hopkins, the secretary, presented the committee's report, which showed that 8,035*l.* had been granted for 31 additional new churches, 285*l.* for four churches rebuilt, 1,590*l.* for 33 churches enlarged, rearranged, &c, and 355*l.* for 15 mission buildings. The districts assisted had a population of 454,572, for whom the church accommodation had thus been increased from 28,584 to 49,328, nearly all the added sittings being free. Since the Society's formation in 1818 it had made grants of 892,428*l.* for 2,346 new churches and chapels and for the rebuilding, enlargement, or otherwise improving of 6,188 The estimated further expenditure by the public on these buildings had been 15,098,253*l.*, resulting in the provision of more than 2,000,000 additional seats, of which about three-fourths were free. Most of the 14 churches assisted by the Wheatley Balme grants of 1,000*l.* each would be consecrated before the end of this year. The committee had adopted a revised set of architectural requirements, as some of the old regulations, while reasonable in the case of new buildings, could not be insisted on in many of the old churches seeking aid.

The Archbishop of Canterbury said that during the last century the extraordinary increase of population, making a much larger number of churches absolutely necessary, had resulted in the formation of this and other societies for the same object. There was, too, no doubt at all that a great many churches had fallen into a discreditable condition, and had been repaired in unsuitable ways. Not a bit too soon a sense had grown that churches in a poor style of architecture and a slovenly condition of repair were not fitted for worship. The whole of England had been more or less stirred, and co-existent with the desire to make the worship of God more reverent and real there had come a desire to make the places of worship more suitable. He could remember in his early childhood many church buildings which were a discredit to the whole Church. They were not all gone yet by any means, but the change in the last seventy years was unmistakable. The only thing to complain of was that it was almost impossible to overtake the task which had revealed itself. It was not the Society's fault that its operations had been exceedingly slow. It was very difficult to rouse men to a sense of the call of God made on them to make churches fit for His worship. Men had sunk into a belief that what they were accustomed to was enough, and were very reluctant to improve what had the sanction of long existence. He trusted as time went on the Society would be able more and more to make its operations attractive to all who cared for decency in worship, and would be able to rescue the country from the charge of disregard for that decency.

The Hon. E. P. Thesiger, in moving the adoption of the report, announced that the Ecclesiastical Insurance Company had decided to raise its annual grant to this Society from 200*l.* to 250*l.* He also urged on church authorities to insure their buildings more adequately

Mr J. O. Scott, one of the committee of honorary architects, seconded the motion, and the report was then adopted.

The Bishop of Llandaff moved a resolution commending the Society to the hearty support of all Church people, having regard to the need of increased facilities for worship in large towns and rural districts. In his diocese, he said, the population had increased by at least 300,000 in twenty years, and though by a special fund 130 churches and mission buildings had been added, giving an additional accommodation of 46,000, the need was still very great, for towns were growing up in every direction.

Viscount Clifden seconded the resolution, which was adopted.

Canon C. F. Norman and Lieutenant-Colonel the Hon. G. H. Windsor-Clive also took part in the proceedings.

CAPE TOWN CATHEDRAL.

A MEETING was held at the War Office, Pall Mall, on Friday last, with a view of inaugurating the fund for the erection of the sanctuary, north chapel and choir of the proposed new cathedral at Cape Town as a memorial to those who have fallen in the South African war and a thank-offering for those who have been preserved. Lord Roberts, the Commander-in-Chief, had hoped to preside, but in his unavoidable absence the chair was taken by the Archbishop of Cape Town. A number of letters were read from gentlemen who heartily sympathised with the proposal, and were willing to serve on the committee, but who were unable to be present.

The Archbishop of Cape Town briefly explained the object of the meeting, which was also the object of his present visit to England, and said that it was proposed to raise a sum of 30,000*l.* for the purpose. He also stated that he had had the honour of an audience of the King, and read the following communication from Sir Francis Knollys:—

"Marlborough House, Pall Mall: May 9, 1901.

"Dear Archbishop of Cape Town,—I am commanded by the King to state that he has heard with great satisfaction of the proposal to erect the eastern portion of the new cathedral at Cape Town as a memorial to those who have fallen by wounds or sickness in the South African war, as well as a thank-offering for those whose lives have been preserved.

"I am further desired to inform you that it has afforded His Majesty much gratification to become the patron of the fund which it is intended to raise on behalf of so admirable an object.—I beg to remain, yours truly,

"FRANCIS KNOLLYS."

"The Most Rev. the Archbishop of Cape Town."

The Archbishop of Canterbury and the Commander-in-Chief consented to become vice-patrons of the fund, and a general committee (with power to add to their number) was appointed. Further arrangements were then referred to an executive committee. An appeal containing full details of the scheme and directions as to payment of donations will be published shortly.

MIDLAND INSTITUTE ARCHÆOLOGICAL SOCIETY.

IN connection with this Society an excursion was made on Saturday afternoon to Hinckley and Stoke Golding by a party numbering twenty-seven ladies and gentlemen. At Hinckley the party, headed by the president (Mr. J. H. Cossins) were met by Mr. Harold, who led the way to the large and handsome church, and explained the features of the building before its restoration. The handsome fifteenth-century roof, of which the principal beams are original, and picturesquely supported on posts, carved in the form of angels, attracted much attention. Mr. Harold also showed some portions of stained glass which were formerly in the church windows. A pleasant walk brought the visitors to Stoke Golding, where an unrestored church of great beauty was found. The church has very beautiful windows and arcading of the late thirteenth and early fourteenth centuries. The whole village, standing on a hill overlooking the field of battle towards Market Bosworth, is paved with stones, which badly need relaying. This paving and also the road-mending is done from an ancient bequest now yielding something like 100*l* a year, so that the village is free of highway rates. After a substantial tea the party inspected the Crown Hill, where the crown of Richard III. was placed on the head of the Duke of Richmond, King Henry VII. On the homeward journey a short wait at Nuneaton enabled a visit to be made to the church built within the foundations of the old abbey and enclosing the piers of the ancient tower.

WOLVERHAMPTON NATURALISTS' AND ARCHÆOLOGICAL SOCIETY.

A LARGE party of the members of this Society, by permission of Mr. A. L. Vernon, made an excursion on the 11th inst. to Hilton Park for the purpose of examining some remarkable "burghs" or ancient British "pit dwellings," recently identified as such by Mr. W. H. Duignan, of Walsall, in a copse on the edge of the Park. Mr. Duignan was prevented by indisposition from being present, and in his absence Mr. Vernon conducted the visitors to the site, which is about half a mile from Hilton Hall. On reaching the place among the trees two basin-like hollows, each some 20 yards in diameter, and perhaps 100 yards apart, and now used as fish-ponds, were pointed out by Mr. Vernon, who in an interesting address stated that several years ago Mr. Duignan, in examining some ancient Anglo-Saxon documents bearing on the times of Alfred the Great, found mention made of a British village near Hilton, and entirely unknown to modern antiquarians. On proceeding to make explorations, he was happily conducted to the spot by the owner of the estate, himself previously unaware of the significance of those basin-like hollows, or "pit dwellings." Many years ago the father of the present occupant of the Hall, struck with the appearance of those hollows, previously dry, had conceived the idea of utilising them as fish-ponds, and in proceeding to adapt them for that purpose a considerable quantity of rude tiles, of a kind unlike any now in use in the neighbourhood, were dug up, and being mistaken for old rubbish unfortunately none of them were preserved. On an adjacent small elevation in the Park, known locally as Temple Hill, two other, but smaller, artificially formed hollows exist. It is conjectured that those had some connection with the religious rites of the dwellers in the "burghs," or pit dwellings, of those ancient Britons.

On returning to the Hall a paper was read by Mr. William Hutchinson, F.G.S., dealing chiefly with prehistoric British remains, and an address delivered by the ex-president of the Society, Mr. J. P. Jones, of Tettenhall, a gentleman well acquainted with all matters of local antiquarian interest

Cordial acknowledgments were made to Mr. Vernon for his courtesy, after which the party proceeded to Shareshill for refreshments and to inspect the pretty little village church, where for many years the Rev. W H. Havergal was vicar, and where in the vicarage close by the early years of the gentle poetess Frances Ridley Havergal were spent.

NOTES AND COMMENTS.

IT is doubtful whether exhibitions, international or otherwise, serve any great purpose in the encouragement of architecture. The Rue des Nations in the recent Paris Exhibition, although enterprising enough, warrants no belief in an æsthetic architectural advance. The Exhibition buildings at Glasgow in a like manner show no proof of a future predominant style. Yet indirectly the Exhibition may materially help the art of building. Architectural students south of the Tweed will be attracted this year to spend their vacation in Scotland, and those who visit the Scottish capitals and their suburbs for the first time will find much to learn from their architecture. The average town and suburban houses of London and Dublin are built on almost the same monotonous plan, or rather pattern, of manufacture; for, strange to say, the architects of the two cities would seem to have little or nothing to do with their plan or construction. In the heart of each city we come perpetually on the "two windows, area railing and a door," and in the suburbs of each alike we see the spruce-looking, but frail and tasteless villa with its living-rooms, with side entrance below, reception-rooms with main doorway above, and bedrooms over all—an excellent arrangement, and perhaps the best disposal of the storeys of a small middle-class house. The suburban dwellings of the two cities are identical in other respects; they stand usually within a small front garden, having a larger one at their rear, with the advantage of abutting directly on the rear gardens of the houses behind. Though ephemeral and even shaky in their *entourage*, these suburban dwellings have a decidedly cheerful aspect, partly, we imagine, due to a profusion of white window-blinds, and partly to the indispensable periodical painting of at least their external woodwork, triennial in London, and even annual in Dublin. Yet with all these points of identity in their house building, the two cities stand widely apart in other circumstances; one is fabulously rich and the other is proverbially poor. If the Londoner crosses the Channel into France he does not find this *vraisemblance* between his own and his Gallican neighbour's style of house building. If he crosses the Tweed, too, he comes at once and everywhere upon a totally different style of house building. It is not the simple difference due to a change of building material, such as might be seen in Somerset or Yorkshire. The traveller will no longer see the same kind of dwelling for peer, for burgess, or for peasant that he has left behind him on his own southern side of the border. If he be an observant architect or builder capable of appreciating details of construction and arrangement, he will find that in architectural parlance the phrase "across the Border" is something more than a mere geographical expression. Whether he be architect or builder he will find nearly every one of his English traditions outraged and defied. The discrepancy is too great and startling to deal with in this dual sense. Modern Edinburgh may be adduced as on the whole a very fair sample of the Scottish cities. The traveller no longer finds the monotony of plan so oppressive in the house-building of London and Dublin—a monotony that pervades every class of dwelling. The houses are seen to be so varied and so ingenious in their plan as to be altogether beyond the task of the speculating builder or house manufacturer who in London runs up the jerry-built carcase for the millionaire or the costermonger.

SINCE its revival *L'Art* has shown extraordinary vigour. One of the ways in which the power is displayed is in the presentation of independent plates, which will form a most valuable portfolio of varied character. Last month one of MORLAND'S pictures was reproduced in the style which that unlucky man of genius preferred to all others. The technical qualities which were needed in order to work in a manner that has been so long superseded, and which must be novel to French engravers, deserve general appreciation. In a different method is the large, and we might say splendid plate by which M. GIROUX has been able to interpret one of GUARDI'S noblest views of Venice, viz. the Doge's Palace and the adjoining buildings. The vigorous articles by M. PAUL LEROI and others in *L'Art* have already roused many French journalists from the lethargy into which they had fallen. The conductor will not bend the knee to mediocrity in any case.

ILLUSTRATIONS.

CHURCH OF ST. IGNATIUS, STAMFORD HILL, N.: ELEVATIONS, SECTIONS, GROUND PLAN.

THIS new church for the Fathers of the Society of Jesus is about to be erected on land adjoining their college fronting Stamford Hill and St. Ann's Road. The plan consists of a nave of six bays, with side aisles, transepts and sanctuary, with processional passages continued right round the east end. The interior will be faced with Caen stone in parts and the rest plastered. In place of wooden principals stone arches span the nave, and give dignity and solidity to the structure. Above the arches of the aisle arcades a band of mosaic takes the place of the triforium, and it is intended to treat this as a procession of saints advancing to the east end of the church, where figures of OUR LORD with the twelve apostles occupy the east wall.

The windows of the clerestory will be filled with white glass, and character will be imparted to them by the lines of the lead glazing. The Stations of the Cross will be executed in glass mosaic in panels sunk in the pilasters of the arches dividing the bays of the aisles. The pavement of the nave and aisle passages will be of black and white marble of simple design; that of the sanctuary and altar in green and white, with a sparing use of other colours.

Externally the whole church will be faced with Kentish ragstone. The west front with the two lofty towers, slightly dissimilar in design but similar in outline, flanking the three entrance portals, with the great rose window above, will produce a restrained and dignified exterior.

The style is of Early Gothic character, with a certain amount of French and Spanish feeling in parts. Simplicity, unity of parts and proportion have been the chief objects aimed at in this building.

The cost of the shell of the structure will be 16,000*l.*, and with mosaics, glass and all the fittings, 30,000*l.* The architect is Mr. BENEDICT WILLIAMSON, 4 Hillside Road, Stamford Hill.

GROVE LODGE, PRESTON, NEAR BRIGHTON.

THIS house, which has been recently prepared for the residence of Mr. JOSEPH STOREY (chairman of the Wilson Engineering Company), is situated on the outskirts of Brighton, on the London Road. A prominent feature in the arrangement is the large entrance hall provided for use as a gallery for the collection of paintings. This hall has oak fittings and flooring, and is lighted by electric light. At the entrance to the grounds a lodge has been erected, and the whole of the work has been carried out by Messrs. PACKHAM & PALMER, of Preston, from the designs of Messrs. CLAYTON & BLACK, architects, of Brighton.

FAULD HOUSE SCHOOL, WHITBURN SCHOOL BOARD, WEST LOTHIAN.

THE building is one of the latest schools which Mr. J. GRAHAM FAIRLEY has designed. That the arrangements satisfied the authorities is evident from the ease with which the plans were approved.

NOS. 73 TO 87 STREATHAM HILL, S.W.

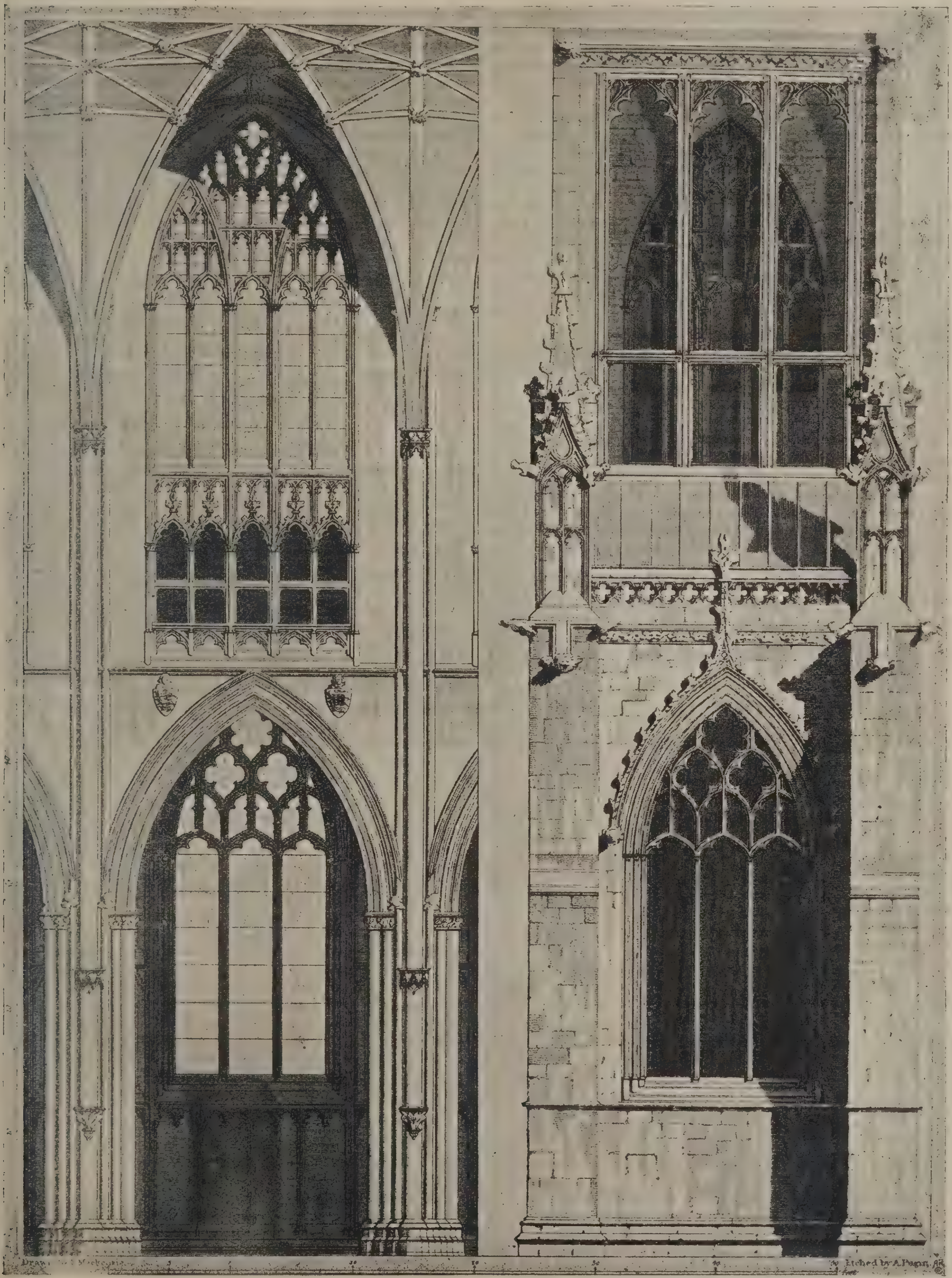
THE subject of our illustration is one of three blocks of business premises with residences over, which have been erected on the Leigham Court estate of the Artisans, Labourers and General Dwellings Company, Ltd.; two other blocks have yet to be erected to complete the frontage to Streatham Hill. These form part of the building scheme of the company at this estate, which has an area of 66 acres. At present 311 single houses of varying type of plan and elevation, and 238 houses giving maisonette accommodation for two families in each, with separate entrances, have been erected.

The premises illustrated are externally built of pressed red facings, with Fletton bricks for colour relief and terra-cotta dressings. The shops have warehouses in basement, lavatory and w.c. on ground floor. The residential portion is approached from the front, or from a corridor at the rear which extends the full length of block. The accommodation consists of drawing-room, dining-room, kitchen, scullery, &c., on first floor, seven bedrooms, bathroom, w.c.'s, &c., on floors above. The estate has been laid out and the buildings thereon erected from the designs and under the supervision of Mr. HARRY B. MEASURES, architect and surveyor, of No. 16 Great George Street, Westminster, S.W.

STAINED GLASS IN YORK CATHEDRAL.

IT was remarked by Mr. Winston, and as an authority he stands high, that few cities can boast of more extensive and important remains of painted glass than York. The examples extend over a period of nearly four centuries, but it is the almost unbroken series of glass paintings of the fourteenth and fifteenth centuries which renders this collection so interesting to the student. The greater portion of these specimens is in the minster, and their value as evidence of the state of the art at different periods has been enhanced by Browne's laborious investigation of a vast mass of original documents relating to the building and adorning of the cathedral, which enabled him to assign dates to most of the windows with considerable precision.

The earliest painted glass in York, and indeed one of the earliest specimens in England, is a portion of a "Jesse" in the second window from the west, on the north side of the clerestory of the nave of the cathedral. It forms the upper subject in the westernmost lower light of this window. The date of the glass is about 1300; it is therefore much older than the greater part



INTERIOR AND EXTERIOR TREATMENT OF WINDOWS IN YORK CATHEDRAL CHOIR.

of the Early English glass at Canterbury Cathedral, to which a date cannot be assigned much earlier than the middle of the fourteenth century. A coloured engraving of this very curious example is given in Browne's "History of York Cathedral," plate 123. Much Early English glass, varying in date from the beginning to the middle of the thirteenth century, has been employed to fill the wheel of tracery in the head of the last mentioned window, as well as the wheels in the tracery of the five next clerestory windows. The upper tier of subjects in the lower lights of the fifth and seventh windows, counting from the west on the north side of this clerestory, are also Early English. An Early English subject is inserted in one of the lower lights of the sixth clerestory window, counting from the west. The wheels in the tracery of all but three of the clerestory windows on the south side of the nave are likewise filled with Early English glass, and Early English glass paintings are also to be found amongst the subjects in the lower lights. Coloured engravings of some of this glass are given in Browne's "History." One plate, of great value to the antiquary, represents a series of borders from the commencement to the middle of the thirteenth century.

The next glass in order of date is that in the "Five Sisters," which beautiful pattern windows are of the latter half of the thirteenth century. It is hardly necessary to observe that the glazing of the five lancets above the "Sisters" is modern. A portion of the pattern of each of the "Five Sisters" has been carefully engraved in Browne's plates 61, 63, 65, 67 and 69. Some glass of the same character and date as that in the "Five Sisters" has been inserted in the tracery of the second window from the door, in the vestibule or passage leading into the chapter-house. The remains of a very nice Early English window of the latter half of the thirteenth century are inserted in two Decorated windows on the north side of St. Denis, or Dionis Church, Walmgate.

The next glass in order of date is that in the chapter-house and vestibule leading into it. This is of the time of Edward II. and commencement of the reign of Edward III., and is an extremely beautiful specimen of Early Decorated work. Accurate engravings of the patterns of some of these windows are given in Browne's plates 79, 83, 85, 88 and 92, and a coloured print of one of the subjects, the "Annunciation," has been published. One window in the chapter-house, that opposite the entrance, is a restoration by Messrs. Barnett & Sons, of York. It has been carefully executed, and if it does not produce so satisfactory an effect as the original windows, this arises not from the fault of the artist, but from the impossibility of procuring at the present day a material similar in texture to the glass of the fourteenth century.

The next glass in order of date is that in the nave of the cathedral, its clerestory and aisles. This glass is all of the time of Edward III. The contract for glazing the great west window is dated 1330, and none of the glass probably is later than 1350. The general arrangement and execution of the designs throughout this part of the building are well worthy of notice, as evincing the attention paid by our ancestors to general effects in these matters. The west windows of the nave and aisles, of which distant views may be obtained, have their lower lights filled with large figures and canopies, while the windows of the aisles, with but one exception, are adorned with paintings of a more complicated character and on a smaller scale, and which are therefore better calculated for a near inspection. Much of the plain geometrical glazing in the clerestory windows is original and, like that in a similar position in Cologne Cathedral, affords proof that the ancient glass painters did not consider themselves bound to finish patterns destined to occupy a distant position as highly as those placed nearer the eye. Some Decorated glass of the same character and date as that in the nave has been placed in the first window from the west of the south aisle of the choir. The second and third clerestory windows from the east on the south side of the choir contain similar glass, which, as is conjectured, has been removed thither from one or other of the two blank side windows of the north and south aisles of the nave.

The earliest Perpendicular glass in the cathedral is contained in the third window from the east in the south aisle of the choir, in the third and fourth windows from the east, in the north clerestory of the choir, and in the fourth clerestory window on the opposite side of the choir. These windows are of the close of the fourteenth century. There is also an early Perpendicular "Jesse" in the third window from the west in the south aisle of the choir. The date of the east window of the choir is well known; a contract for glazing it in three years was made in 1404. This window is one of the best executed in England; the beauty of the figures, however, cannot be fully appreciated without inspecting them closely from the gallery near the window. The other windows of the choir aisles eastward of the small eastern transepts, as well as the glass in the lancet windows on the east side of the great western transepts, appear to be likewise of the time of Henry IV. Some of these windows may probably be a few years earlier than the east window. All the rest of the glass in the choir is of the reigns of Henry V. and Henry VI., the greater proportion belonging to the latter reign. The chief peculiarity to be observed in these windows is that the white glass which enters so largely into their composition is, generally speaking, less green in tint than is usual, especially in the western and southern parts of England. Mr. Browne has stated that it clearly appears from the fabric rolls that this white glass is of English manufacture, which circumstance may perhaps serve to account for its whiteness.

Some glass of the reign of Henry VII. has been inserted in the four upper south windows of the great west transept of the cathedral; the heads of some, if not all, of the figures are restorations.

A very beautiful glass painting of the latter half of the sixteenth century has been inserted in the window next the east of the south aisle of the choir. It was presented to the cathedral by Lord Carlisle in 1804, and was brought from a church at Rouen. The design is evidently taken from a painting ascribed to Baroccio, who died in 1612, aged eighty-four, but the colouring and execution have been varied to suit the nature of the material employed. It is inferred from the column-like arrangement of the groups, as well as the actual division lines of the glass, that this work was originally painted for a four-light window. This is neither the place nor the occasion for any discussion touching the relative merits of this and the earlier glass paintings in the cathedral, but it may be permitted to observe that this work affords a proof that it is not impossible to unite the drawing and colouring of an advanced period to the true practice of glass painting. In the windows by Peckitt at the south end of the great west transept the principles of painting upon glass and painting upon canvas are confounded together; in attempting to imitate the depth of an oil-painting by shadows alone he has simply produced opacity, than which no greater fault can be committed in glass painting.

THE PROTECTION OF BUILDINGS FROM LIGHTNING.*

(Concluded from last week.)

ALTHOUGH Dr. Lodge's views did not, I think, obtain the consideration they deserved, we may still consider that there are in existence the two schools, the one of theory pure and simple, as represented by Dr. Lodge, and the school of experience, as represented by the teachings of the older electricians, as Dr. Lodge called them. Between these two we must discriminate and formulate the method of procedure which will insure success. Theory and experience are each in their way of the greatest value, but one is useless without the other. Experience without theory is not sufficient. A man might have a lifelong experience of the protection of buildings, but if his methods were not guided by theoretical knowledge, that is, if he did not know why he did certain things, success would be at the best uncertain. On the other hand, a man might have a perfect theoretical knowledge and yet be completely lost when he attempted to put his theories to practical application. It must not be supposed that I refer to the members of the Lightning-Rod Conference as men of experience without theory. On the contrary, if they had not adopted or accepted through their chief speaker, Sir William Preece, the title of the school of experience, I should have styled them a school of theory also, for the conference consisted of men of science pure and simple, who had probably had very little practical experience of the protection of buildings. Their claim to have founded the rules on experience is probably based mainly on the fact that the evidence they collected and considered was largely of a practical kind. For the sake of distinction, however, we will keep to the terms theory and experience in considering the points in dispute. Experience says, let your conductors be of copper, which is of better conducting capacity than iron or any other metal which it would be practical to use for the purpose, and besides, it is the most durable and in the end the cheapest. The comparative conductivity of copper and iron they base on tests made by many distinguished scientists, both British and foreign, who have shown that in the case of steady currents of electricity copper conducts about seven times as well as iron. Theory says, that for sudden discharges such as lightning the conditions are changed and that iron is "a trifle better, certainly not a whit worse than copper," and that the use of the latter metal is a needless extravagance. Also that instead of having single conductors of copper, a number of lines of conduction of iron wire of small size is better (ordinary telegraph wire is suggested); that these wires should be carried down each corner of every chimney-stack and on all sides of the building. For a chimney-shaft this system is to consist of galvanised iron wires fixed vertically on all sides, with other wires carried round the shaft at intervals to connect them all together. On purely theoretical grounds, I see little to choose between the two systems provided the conductors are applied on scientific principles. A man who understood the subject thoroughly would be able to protect a building as perfectly with one system as with the other, but the many iron wires would be more difficult to apply successfully, because it is easier to place one or two conductors so as not to be within sparking distance of metals to which it is not advisable to connect them than to fix a dozen so. We have had a very extended knowledge of the experience type of conductor, and we have had plenty of cases in which they have succeeded. We have also had cases in which they have failed. I have myself inspected a great number, that is to say, nearly every case I have heard of. The number has been on an average about a dozen a year, but in every case that I have examined, with one exception, there have been glaring defects such as rendered the failure certain, and which could have been pointed out beforehand by a competent person who had examined the building before the accident happened. The one exception was Needwood Church, Staffordshire, where sparking occurred owing to a line of metal having been laid from close to the conductor to near a large metal stove used for heating the building. The line of metal was the lead binding of some matting—insignificant enough in itself, but from an electrical point of view it brought the stove into dangerous proximity with the conductor. Of the theory type of conductor we have had very little opportunity of judging. In one case in which it has had to bear the test of being struck by lightning it failed. This was the Hôtel de Ville at Brussels, and this was set on fire, curiously enough, about the time that the great Preece *v.* Lodge controversy was proceeding. I have only had an opportunity of examining one system of this sort erected in this country. So far as I know, it has never been subjected to the test of lightning, but it is, nevertheless, an instructive case.

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* A paper by Mr. A. Hands, read at the last meeting of the Architectural Association.

About 1894-95 a chimney-shaft was being built for the Islington electric-light station, and the chief engineer, Mr. Albert Gay, having followed Dr Lodge's arguments very closely, decided to try the small iron wire system of conductors. By 1897, however, it was found that this system had perished to such an extent that in order to avoid the expense of frequent renewals it was decided to provide, also for the same shaft, an ordinary conductor of copper tape 1½ inch by ⅛ inch The cost of the copper conductor was 22*l.* I have not ascertained the amount paid for the iron-wire system, but allowing for the same rate of profit that appears to have been made on the copper one, I estimate that the cost must have been between 35*l* and 38*l.* A few days since I had an opportunity of examining the two systems, and found that while the iron one had largely perished at the top where it was exposed to the fumes of the chimney, the copper one was practically as good as when it was fixed. This would, I think, be a fair sample of the theory type of conductor—durability sacrificed and original cost increased tremendously. For it is a very great mistake for Dr Lodge to suppose that his suggested iron telegraph wire system would be cheaper than the copper tape generally used Iron is, of course, cheaper than copper, but the cost of fixing is a serious item, and where, say, several hundred feet of iron wire has to be fixed in place of a hundred feet of copper tape, the total cost must be greatly increased if the work is to be done by competent men under the guidance of an expert If Dr Lodge had any idea that a local blacksmith or labourer could be entrusted with the work, and the expert and his trained workmen done away with, the result would, I believe, still be increased cost, and instead of hearing of occasional cases where conductors had failed, we should be astounded to hear occasionally that a conductor had actually been successful.

Personally I do not attach very great importance to the kind of metal to be used for a lightning-conductor. The conductor may be of copper or iron, or it might even be of lead; so long as it is of sufficient capacity not to be melted by the heating effect of a severe discharge, it will answer if properly applied. It must not be supposed from this that I advocate the use of lead, or even iron Iron conductors have been used almost exclusively in America since Franklin's day, and also in some continental countries, with as good results as in England, where copper is almost exclusively used. It is very probable that the older ideas as to the relative conductivities of copper and iron do not apply in the case of sudden discharges, although I do not think that Dr. Lodge has proved his case; but if iron, instead of being "not a whit worse than copper" was seven times as good, it would not prevent the dividing of the discharge between it and other paths afforded, or even sparking to insulated metals, if it was not scientifically applied; and on the score of durability and cheapness I have no hesitation in saying that the older type, or copper tape conductor, cannot be beaten. On the score of appearance, too, copper tape has the advantage, and appearance has to be considered, for I do not think there are many architects who would consent to have their work turned into what would look like enormous birdcages.

As Dr. Lodge has himself said, it is impossible to make the lightning-conductor such a superlatively easy path that the discharge will take that one only if other paths are open for it, but it is here that the skill and scientific knowledge of the expert has to be shown. If one had to protect a structure composed only of brick, stone, or wood, and with not a particle of metal in its construction, nothing would be easier. All that would be necessary would be to have a conductor of metal, pointed at the top and leading down into the earth. It might be made in lengths scarcely touching one another, and the earth connection might be absolutely bad, and yet the building would be protected. All that would happen would be heating and possible fusion at the joints, and the ground at the foot of the conductor might be blown up. It is very rarely, however, that one is called upon to protect a structure of that kind. Modern buildings are often a mass of what I may call unintentional lightning-conductors, for all the metals used in the construction of buildings are conductors of electricity, and therefore conductors of lightning. Some of these metals have good earth connections—in fact, gas and water-supply pipes have excellent "earths," owing to the extent of their ramifications underground; and it is a matter of considerable difficulty—in fact, in some cases practically impossible—to make the "earth" of the intended conductor as good as these accidental ones unless we actually connect the conductor to the underground mains. This is the common-sense view of the matter. It is no use for a manufacturer to tell you that with his patent coupling, or serrated earth-plate or what not, he can guarantee that sparks will not pass off to accidental conductors placed dangerously near it. If he says that, he either does not know what he is talking about or he is guilty of a deliberate falsehood in order to sell his wares. There is nothing magical about a lightning-conductor; it is merely the adaptation of the known laws of nature to the use of mankind. If you fixed one conductor to the highest part of a building, and another one, say, 6 feet up the wall, and approaching within a foot or two of it at that point, and both with equally good earth connections, I do not suppose you would be surprised if the lightning divided and part went down one conductor and part down the other, or, if brickwork intervened, a hole was made through it. Why, therefore, should you be surprised if, when arranging for your lightning-conductor, you take no heed of the metal inside the building, and place one conductor down outside and another one in the form of a gas-pipe inside, and the discharge divides between the two, knocks a hole in the wall, and sets light to the gas? Lightning has to follow certain unalterable laws, and one of those laws is that if two or more paths are provided, it must divide between them. It is no use labelling or calling one the lightning route; that will not alter the law. Out of the many cases of true failure of lightning-conductors that I have examined I have found that 90 per cent. have been due to neglect of this common-sense view, as I call it. It is no argument against the use of conductors that the discharge will divide between accidental and intended paths. It merely shows the necessity for arranging the conductor so that the faults which lead to the division of the discharge shall not exist. If such faults do exist, it is obvious that the damage should be very much less, and never in any case greater, than if the conductor had not been applied at all. But this is poor philosophy. We should arrange so that the division shall not take place. We cannot prevent a building being attacked by lightning—any structure, from a cathedral to a hen-coop, may be struck. All we can do in this respect is to provide our conductor with points (and the more the better) to lessen the liability of its being struck. We can, however, go further than this. We can, by carefully studying our building both inside and out, arrange our conductor system so that the lightning shall go harmlessly past it through our conductor and leave our building and its contents secure. That is, unless somebody who does not understand the matter comes along and alters the conditions that we studied, and so makes our system less effective. Before going further into the matter I must draw a distinction, as Snow Harris did, between side flash to other paths and sparking to metals which do not afford an alternative path, though not agreeing with him as to the impossibility of the latter. In order to make the matter more clear I must dip a little into theory, though I do not think it necessary to go far.

There is nothing mysterious in lightning sparking through to a gas or water-pipe or other metals the other side of a wall. It is not chance or instinct or any other quality not explainable by scientific laws. We must reason the matter out by the use of the faculty of imagination, for I know of no simile which would serve to bring the matter to your minds. As Professor Tyndall once said of another scientific matter:—"The question leads us beyond the region of sense and into that of imagination. This faculty, indeed, is the divining-rod of the man of science. Not, however, an imagination which catches its creations from the air, but one informed and inspired by facts, capable of seizing firmly on a physical image as a principle, of discerning its consequences, and of devising means whereby these forecasts of thought may be brought to an experimental test. If such a principle be adequate to account for all the phenomena, if from an assumed cause the observed facts necessarily follow, we call the assumption a theory, and once possessing it, we can not only revive at pleasure facts already known, but we can predict others which we have never seen. Thus, then, in the prosecution of physical science our powers of observation, memory, imagination and inference are all drawn upon. We observe facts and store them up; imagination broods upon these memories, and by the aid of reason tries to discern their interdependence. The theoretic principle flashes or slowly dawns upon the mind, and then the deductive faculty interposes to carry out the principle to its logical consequences. A perfect theory gives dominion over natural facts, and an assumption which can only partially stand the test of a comparison with facts may be of eminent use in enabling us to connect and classify groups of phenomena." So in the present case we must exercise the faculty of imagination in order to understand what takes place, and if we are omitting certain conditions or considerations which afford a fuller explanation, still, if it enables us to grasp a general idea and assists us to understand the matter, we shall be in a better position.

When the conditions are proceeding which lead to a discharge of lightning occurring, induction, as I have already pointed out, takes place; that is to say, there is an enormous difference of potential between the cloud and the building about to be struck. This inductive action is stronger in conducting than in non-conducting masses; therefore the lightning-conductor and other metals would show this action better than brickwork. If the metal is connected to earth the action would be quick, if the metal is insulated the action would be slower, because the charge would have to filter through the insulating material gradually. Suppose that we have a lightning-conductor and near it, say, a metal safe. Let us suppose for the sake of argument that the value of this induced change was 1 (if the cloud was positive the induced state would more properly be described as a minus quantity, but it will be more simple if we regard it merely as 1) both in the lightning-conductor and the safe. Then comes the discharge, the conductor has its potential raised suddenly at the moment of receiving the flash to, say, 1,000, but the safe which is insulated remains practically at 1. There is then a big difference of potential between the conductor and the safe, one being 1,000 and the other 1, therefore there is a strain, and if the safe is near enough a spark passes knocking a hole through the wall so as to bring the potentials nearer in value. Let us say that the safe is raised to 800. In the meantime the discharge has died out in the conductor, and this returns to 1; but the safe is 800, so that there is still a difference of potential but the values reversed, and a spark passes back. So backward and forward should the spark pass—possibly half a dozen or a dozen times in a minute fraction of a second, a fraction so minute that we could not detect the alternations, and we should perceive only one spark, until the two objects arrive at about the same potential, when the tension dies out. This would be an oscillatory spark. If we connected the safe and the conductor together by a piece of metal, these oscillations would take place through the metallic connection and there would be no visible effect, unless, say, we had another safe a few inches away from the first one, when there would be again a difference of potential and resultant sparking. Again a third safe near the second and the same thing would occur—in fact, this might be carried on from one to another to a considerable distance, providing each succeeding interval between the safes was less than that preceding it, and sparks would pass between each, but at each interval the spark would be weaker, till we should get to a distance at which no spark would pass.

Let us suppose another case—a long piece of metal, say 20 feet in length, connected at one end to the lightning-conductor but not otherwise connected to earth. At the moment of the occurrence of the flash the potential of the conductor would be raised and also that of the long piece of metal, but the rise in the latter would occur at the end connected before it did at the other, therefore we should get an alternative rise and fall of potential at the ends of this piece of metal, or what Dr. Lodge calls a surging effect, but this would be harmless unless another piece of metal at a different potential came near it. If it did there would be sparking. Even if the long piece of metal was not actually connected with the lightning-conductor, but just so far away that a spark would not pass to it, there would still be the same surging effect caused by induction, and if other metal approached close to the other end there would be difference of potential and consequent sparking. These are instances of local sparking only, and do not indicate that any part of what we may call the lightning has left the conductor to go to earth by another route. This sparking is not as a rule a very serious matter. A small hole may be made through brickwork or other intervening non-conducting matter, but that is about all, unless some inflammable material intervened, when a fire might be caused.

Now we come to the question of division of a discharge between a lightning-conductor and other paths to earth, which form what I call accidental conductors. Given a lightning-conductor outside and a gas or water-supply pipe near to it inside the building, and this is a very different matter. The action as regards difference of potential and consequent strain and resulting spark is somewhat similar; but the sparking distance is very much longer, and the spark more powerful, because it is actually a portion of the lightning discharge passing. If we knew the respective inductive resistances of the intended and accidental conductors, we could gauge approximately what proportion of the discharge would go to earth by the former and how much by the latter. But even if you got nineteen-twentieths of the discharge through the former and one-twentieth through the latter, it might be a serious matter. I may here refer again to Dr. Lodge's suggestion that metals should be connected to earth and not to the conductor. Let us take again the question of the safe near the conductor. If it was neither connected with the earth nor the conductor we should only get local sparking, as I call it, but suppose we connected the safe to earth and not to the conductor, we should get an alternative path to earth provided by which actual division of the discharge would occur, and this would be a far more serious matter. Besides this, the sparking distance would be increased enormously, so that objects which would otherwise have been at a perfectly safe distance would be in dangerous proximity. On the other hand, the indiscriminate connection of metals would be almost as fatal.

Now as to the methods for rendering our system of protection perfect. We must first of all decide on which are the parts of the building liable to be struck by lightning, and protect them either by separate conductors or by branch conductors carried to one or more mains to earth as may be necessary, and we must see that these conductors afford as little resistance as possible. The joints must be soldered so that they will not only be perfect at the time they are put up, but will remain perfect. The earth connection must also be made so that this path is at least as good a one as other paths about the building; and besides this we must carefully study our building both inside and out. We must take into consideration all the metals used in its construction, both as regards their relation to the conductor system and to one another, and take such precautions that neither division of the discharge shall occur unless we intend it to occur, nor sparking in places where sparking would do harm. It is here that the skill and experience of the expert have to be displayed, and I cannot give you any rules for your guidance on this matter, for buildings differ so much in their construction and arrangement that rules applicable to one case would be absolutely useless for another. Nothing is of use but knowledge and experience, and as I have already indicated, these cannot be imparted or acquired in a short space of time. I can only say that in some cases connections are made and in others the dangerous metals are avoided, but that great discrimination is required as to what metals are connected and what avoided. Sometimes dividing the discharge between several paths or over a wide extent is the best plan, and sometimes other plans are adopted according to the exigencies of the case or the particular combination of dangers which one may find to exist.

So far I have only touched on what I may call the fringe of this subject. Time will not allow of going much further, though there are many questions, such as the making of earth connections, which are often misunderstood, and in which the methods of procedure sometimes adopted differ widely from the scientific and common-sense methods. I may, however, in conclusion, discuss a matter which is of great importance to architects, and that is as to what parts of a building are liable to be struck, and which therefore require protection. When we have an important public building to protect, and cost is of no importance, we may be tempted to run conductors in all directions and protect all parts whether likely to be struck or not. It is not often that over-protection will do any harm, though it may do so if the matter is not properly done. In the majority of cases cost is very properly a serious consideration, and we do not want to add a penny more to the outlay than is necessary to secure efficiency. It is therefore important to know just what are the places liable to be struck. I have devoted many years to this question, and have examined many thousands of buildings which have been struck, first with the object of formulating a theory, and afterwards to prove that theory, and I propose putting this before you as briefly as possible. The main principles are simple, and possibly it is the very simplicity of the matter which has led to its being overlooked. The popular idea is that it is the highest point of a building which is struck, but probably some of you may have met with cases in which others very much lower have been damaged. I have come across hundreds such. The explanation is that the nearest part of the building to what I may call the point in the cloud from which the discharge originates gets struck, and the highest is not necessarily the nearest. A discharge occurs between two planes or points, one of which is in the clouds and the other is in the ground; the building is merely an object *en route*, as one might say, which forms a path of less resistance than the surrounding air. Now, a lightning-conductor does not attract lightning except inasmuch as, being of metal, induction and consequent difference of potential takes place more strongly in it than in the surrounding non-conducting materials, and in this respect the thin line which is intended to protect the building from lightning is insignificant compared to the other metals used in its construction. Brickwork, although non-conducting to a certain extent, offers a lower resistance than air. Therefore it would be contrary to science for a discharge to pass over a chimney-stack or gable-end to strike a lightning-conductor merely because it is metal when probably the gable-end or chimney has a much larger extent of metal just below it. Even if the lightning-conductor affords the best path to earth, the path of least resistance would be through the gable-end or chimney and the house to the conductor, rather than through a corresponding distance of air, to get to the top of the conductor. We have to consider two kinds of discharge, one the most dangerous type, which occurs fairly straight through the air in an almost vertical line, and the less dangerous flashes which occur in a somewhat oblique line, and are generally meandering in their course. These latter flashes are often called forked lightning, though this is a misnomer, and are popularly, but mistakenly, supposed to be the most dangerous. It is the straighter flashes which do the most harm; those which are capable of breaking almost straight through the air without having to go out of their course to take advantage of any little conducting matter, such as moisture, which will assist them on the way. The meandering flashes are not by any means to be ignored, it is only in comparison with the straighter ones that they are mild.

In arranging what parts of a building require protection, we have to consider the various points in the sky from which the discharge may originate, and so arrange our system that the conductor, or one of its branches, will form the nearest part, no matter from what direction the discharge may come. There is, of course, a limit to the angle of obliquity, and this limit should be about 40 degs., and my observations have led me to infer that the greater the angle of obliquity the milder the discharge. We hear reports sometimes of buildings having been struck by lightning in absolutely unaccountable places, such as lightning missing a tall spire and striking the nave close underneath it, or even striking through a window. Like all other so-called vagaries, freaks or perversity of lightning, such peculiarities do not exist except in the minds of people who do not understand the matter. For a dozen years past I have been scouring the country to try and discover a freak of lightning; plenty are reported in the papers, but on investigation they all prove to be ordinary enough, and merely what one could have predicted had one been informed of the circumstances beforehand. Lightning is a force of nature, and, like all other natural forces, is governed and regulated by laws more unchangeable than those of the Medes and Persians; therefore if we find cases which do not quite agree with our preconceived ideas, we must admit that we either do not know the law, or that we have overlooked some important factor of the case, and not put it down to a sudden and capricious change in the laws of nature.

I have prepared a rough sketch showing a house with a turret and gable-ends, a tree, a wall and a hen-coop, placed in a line and so arranged that either may be struck according to which is the nearest object to the point overhead from which the discharge occurs These are all objects which I have known to be struck by lightning, and I have heard great surprise expressed sometimes that the lower object should have suffered and the higher one, not so very far off, have escaped. In arranging as to which parts to protect, therefore, we can consider this question as to which would be the nearest parts, and we can take it that these are parts which might be struck; other parts higher than these may be absolutely safe if they come well within a line drawn from one to the other, provided other circumstances are equal; but they may not be, for metals either inside or outside the building and other circumstances may complicate the question so far that this rule does not entirely apply. Here, again, the expert requires to weigh carefully the whole circumstances, and nothing but knowledge and experience will enable him to decide accurately which places may safely be ignored and which may not. Notwithstanding all the difficulties that I have pointed out, absolute protection is possible if the building is thoroughly studied. We can either protect it so that we can say not a brick or stone shall be disturbed, or we may say we will protect it so that the inmates shall be safe and the building shall not be set on fire or damaged to any extent —we may say that a stone finial at this end may be knocked down, or a few bricks or tiles disturbed there, and that we will risk that as we do not consider this damage worth providing against, but if we do this we must realise that we are running the risk, and if the stone finial is thrown down or the bricks or tiles displaced we must consider that we deliberately took the risk, and that it is not a failure of our system of protection. In conclusion, I can only advise you not to make the general error of providing your conductors of exceptionally large size under the mistaken idea that by providing your conducting path of exceptional capacity, as it is wrongly called, you can ignore the scientific aspect of the question, for no increase in size of the conductor will compensate for this, and unless you are prepared to devote a number of years and a large sum of money to a very close study of the subject you must be prepared to abide by the opinion of an expert who has acquired the necessary knowledge, and be guided by him, confining yourselves to a close supervision of the work, and to seeing that it is being carried out in a way which will not only render the work efficient when it is completed, but will remain efficient until accident, decay or the interference of people not acquainted with the subject has impaired its efficiency.

Major-General Festing said that until there was a truer record of facts with regard to lightning little good could come of any investigations. He came to the meeting as a member of a committee which had been formed to collect such facts, and they hoped their labours would lead to some good result. They believed that by enlisting in their services men qualified to record those facts, and those interested in such researches, they would make more advance in the whole science than by theorising.

Mr. W. P Goulding thought the want of proper data prevented progress in the acquirement of knowledge in such natural phenomena. One hindrance towards that end was the fact that insurance companies were willing to pay the claims made for injured buildings, even although such properties were not protected by lightning-conductors.

Mr. John Slater moved a vote of thanks for the paper, but regretted it did not contain more practical hints.

Mr. G H Fellowes-Prynne seconded the vote, which was passed by acclamation.

The House List for the session 1901-2, already published in *The Architect*, was confirmed, and with a vote of thanks to the President and the other officers of the Association, the meeting terminated.

CIVILISATION IN EGYPT.

THE second lecture on "The Rise of Civilisation in Egypt" was delivered by Professor Flinders Petrie at the Royal Institution on Saturday afternoon. The subject of the lecture was the second civilisation, as the lecturer terms it, of the prehistoric period, which is believed to belong to a time dating from about 6,000 B.C. to 5,000 B.C. The high mechanical skill of the people of this remote age is shown by the marvellous working in flint—in lances, knives of various forms and other instruments—unequalled by any later race in its regularity and perfect control. Many examples of these were shown on the screen, exhibiting marvellous finish. It would seem that many of these lances were used with cords attached to them, to be thrown from ambush at short distances and then brought back. A like skill was also shown in the regular forms of the stone vases, many of which are in the hardest materials, although they were formed entirely by hand without any mechanical turning or guidance. The same skill of eye and hand appears in the pottery, which is in most cases as regular as if made on the wheel, though entirely hand-wrought and subsequently rubbed with emery. Of this pottery in successive developments many illustrations were given by the lecturer. This astonishing mechanical ability was the basis of all the technical skill of the Egyptians in their later constructions Copper was increasing in use during this age and the forms of tools were being evolved. The connection of this second civilisation with the East is hinted at by the use of forehead pendants and probably face veils, such as are used by Arabs, and by the introduction of amulets, unknown before, which are Semitic rather than Libyan, and have their counterpart in the phylacteries of the Jews. The worship of these people seems to have been largely that of the serpent as the good genius—the agathodaimon of the house or temple. Several serpent images are known in the coiled form, some being discs of stone over a foot across, and all are pierced to be hung up. This serpent genius of a building was worshipped by the Egyptians of a later time; and to this day a serpent found in a house is not disturbed in Upper Egypt for fear of ill-luck. The games have been preserved in some tombs, such as ninepins, the ball being rolled apparently under a rectangular gateway at the pins beyond; a game of four lions and a hare, and games with balls and counters. The paintings on vases and tomb walls show the people to have used large ships, and the foreign pottery imported shows that they had intercourse with the rest of the Mediterranean. Sporadically there is found a curious type of work, of which the origin is obscure, rare in Egypt, but found more plentifully in Bosnia and Spain.

In every respect a decline is seen for many generations before the incursion of the next race. The dynastic race which begins the recorded history of Egypt brought in much artistic ability, and started a fresh and very vital civilisation. Of this ability, and of the finished draughtsmanship of the time in birds and beasts, many illustrations were given. Their earliest monuments are the elaborately-carved palettes of slate, bearing scenes of conquest. These show an extraordinary amount of energy and composition in the designs; and in the later examples, just before the first dynasty, the developing sense of beauty for its own sake led to the carefully symmetric grouping of animals, such as a pair of young giraffes with a palm tree between them. It is clear that there was a great diversity of races in Egypt. The main stock was of the European type, like the ancient Libyans and Amorites. The negro was mixed with that, producing mulattoes. A long-haired race appears also among the Egyptian troops, together with the usual close-shaven Egyptian. A woolly-haired people were conquered shortly before the first dynasty, and other varieties may be distinguished. The problem of the races was therefore perhaps as complex as it has been in better known times. All of this question has yet to be examined, especially when more portrait monuments may be found.

The lecture next Saturday will deal with the early kings whose names have recently been discovered, and the first great dynastic civilisation.

ARCHITECT'S FEES.

LAST week the case West *v.* Barclay was heard in the King's Bench Division of the High Court, before Mr. Justice Kennedy, without a jury.

Mr Reginald Brown, K C., said the plaintiff was an architect practising in the West End of London, and the defendant was a private gentleman of considerable means, who employed the plaintiff in connection with some works at a mansion which defendant took in Leicestershire, known as Gaddesby Hall The action was brought to recover remuneration for professional work done in and about the estate. Plaintiff was first asked to inspect the house when the defendant took it in April 1898, as it required renovating, and he suggested that if defendant employed him to see to the necessary alterations it would save the expense of employing a builder In April 1898 defendant had not decided to take the house, and, like a wise man, he first had the matter of the drains seen to. At his request plaintiff procured the Sanitary Protection Association to inspect the drains and make a report, which they did, sending it to plaintiff, who forwarded it to the defendant, with analyses of the different water supplies on the premises. After this defendant agreed to take the house, and he believed it was taken chiefly for hunting purposes. It was a large house, with about twenty bedrooms, stabling, &c. In May defendant took possession, and work was actually commenced at the end of June. The work, which lasted from June 1898 to October 1899, about fifteen months, consisted of building a new wing, new stabling, coachhouses, harness-rooms, cleaning-rooms, servants'-rooms, repairs and alterations to the house, new windows, making new hot and cold water supply, a new system of warming the house, alteration in the drainage system, wiring the house throughout for electric light, cleaning out the ponds, sinking a well 150 feet deep, building a water tower, digging out the side of a hill to make a new road, besides many minor works. His lordship would see that very considerable works were undertaken, and ultimately the cost came to over 14,000*l.* The question he had to decide was what was the fair remuneration to be paid to the architect under the special circumstances of the case, because it was not the ordinary case of an architect superintending the work for an employer where a builder was employed. Here was what gave rise to the difficulty. He admitted that, on the suggestion of his client, who was then a friend of the defendant, quite bonâ-fide, he suggested that the defendant might save the expense of employing a builder if he were to act practically as his own builder and furnish a banking account, on which plaintiff was to draw for the necessary money required, and plaintiff could then give all the requisite orders and employ the men required. Plaintiff did all that, so he did a great deal more than an architect ordinarily did if the job had been carried through by a builder. The dispute was whether plaintiff was to be limited to the ordinary charge of 5 per cent. allowed by the scale of the Institute of British Architects, or whether he was justified in making an extra charge of 5 per cent. considering the extraordinary nature of the work he did. The work was commenced in June, 1898, and between then and September, 1899, when he made his last visit, plaintiff made twenty-four visits from London. Defendant was away travelling, and there was a long correspondence, but eventually, in July, 1899, defendant seemed to have got sick of the job, because he found, as people often do when they take an old house and have it cut about, that it was costing very large sums of money, and, whereas no doubt at one time he had estimated that 8,000*l.* or 9,000*l.* would cover the job, it had worked out then to over 13,000*l.* He was dissatisfied with the way in which the painters and decorators inside the house were doing their work, because in July he wrote telling plaintiff to clear them all out of the house, adding, "I am the laughing stock of the whole county. Everyone knows that I am being robbed by these men," and he wished he had made a contract with a builder in the first place. In September plaintiff paid his last visit to the place, but went on superintending the work until the middle of October, when defendant wrote to him through his solicitors, asking him to send in his accounts, and after that the work was put into other hands. Plaintiff sent in his accounts, and applied in August 1900 for balance of the remuneration due to him of 295*l.* 18*s.* 5*d.*, the sum shown on the writ as balance due, but as the money was not paid a writ was issued in September 1900. Plaintiff took out a summons to refer the case to an architect to be named by the President of the Institute or to an official referee, but that was opposed, and plaintiff had to come there. The substantial point now was whether plaintiff was entitled to charge 10 per cent. or only 5 per cent. for his services. If only 5 per cent. was allowed, then there were other expenses which would be due for out-of-pocket and travelling expenses, &c., and which defendant did not dispute, but if 10 per cent. were allowed the question might arise whether that would not cover all expenses.

Mr. Bray, K.C., said his case was that plaintiff did less than an architect would do in some cases, and more than an architect would do in other cases, and his contention was that substantially 5 per cent. was enough.

Mr. Justice Kennedy: You have already paid him something like 7 per cent. apparently.

Mr. Bray said plaintiff drew it himself.

Mr. Brown said the way it was done was that defendant paid lump sums into a banking account, and plaintiff drew upon it for expenses and rendered accounts to the defendant.

Mr. Bray said he was not making any imputations.

Mr. Brown admitted that there was nothing in the letters of plaintiff to defendant which would show defendant that he was claiming 10 per cent. unless he worked out the accounts. There was a counter-claim by which defendant said now, after the whole job was completed, he claimed to have back the difference between the 5 per cent. and the 10 per cent. plaintiff had drawn.

Mr. West, the plaintiff, then went into the witness-box, and gave detailed evidence in support of his claim.

After further evidence for the plaintiff, Mr Bray addressed his lordship for the defence, and called Mr. Hedworth Trelawney Barclay, the defendant, who said he thought plaintiff had been more than amply remunerated for the work he had done. Witness took the house on lease.

Mr. Gruning, vice-president of the Institute of British Architects, said he thought plaintiff had not done enough to entitle him to 10 per cent.; 5 per cent. all round would be the proper remuneration.

Other architects were called, who gave evidence of a similar character for the defence.

Mr. Bray submitted that something under 750*l.* would be ample and liberal remuneration for the plaintiff, being 5 per cent. on the total outlay of 14,349*l.* and his out-of-pocket expenses.

Mr. Brown having replied, his lordship said a great deal of annoyance and inconvenience would have been saved if both parties at the outset here had put down their bargain in black and white, and in plain language. It seemed to him that the plaintiff's claim as a whole was untenable, but he had come to the conclusion that the work as done was more onerous, both in point of responsibility and in the actual labour, than the usual course taken by architects working on the ordinary 5 per cent. scale. He thought plaintiff was clearly entitled to something over 5 per cent., and, taking everything into consideration, he held that plaintiff was entitled to 7½ per cent., with the exception of certain specified small items, and in addition he was entitled to certain expenses which were admitted

Judgment was entered for the plaintiff on the claim for 1,150*l.* with costs, and for defendant on the counter-claim for 107*l.* with costs.

THE SUNFLOWER.

FROM its decorative interest in connection with the Queen Anne style, the following account of the sunflower, given by a correspondent of the *Times*, is worth attention :—

The tall sunflower, which is a conspicuous object in English cottage gardens in the summer months, is of American origin, its native habitat being the region of the great plains extending from Nebraska to North Mexico. It was first cultivated in Europe in the gardens at Madrid about the middle of the sixteenth century. One of the earliest records of the plant is that of De Lobel, a Flemish botanist, who in 1576 published a description of it, with an illustration much like the garden variety of to-day. Descriptions and drawings of four varieties given by Gerarde in 1597 indicate that the sunflower was well developed in Europe at that time, and it was undoubtedly derived from plants cultivated by the American Indians. When Champlain explored the vicinity of Georgian Bay in 1615 he found the Indians there cultivating a "herbe de soleil," from the seeds of which they obtained an oil to use on the hair. Sunflower seeds were also employed as food by the Indians in early times, as they are by many tribes at present. In Western Europe and America, where the sunflower has been grown chiefly for ornamental purposes or occasionally for poultry food, there has been apparently little improvement or development in large varieties during the three and a half centuries of cultivation. In Russia, where the numerous religious fasts restricting the use of meat lead to a large consumption of oils and oily foods, the sunflower seed has been almost a staple article of diet. It is eaten raw, or roasted, as pea nuts are in America. Between 1830 and 1840 sunflower oil began to be manufactured on a commercial scale in the southern provinces of Russia, and since then various important industries based on the production of oil and oil cake have arisen there and led to the development of more prolific seed-producing varieties. The three principal kinds now cultivated in Russia are one with large white seeds, said to yield the largest amount of oil; one with smaller black seeds, which are sweeter and regarded as best for eating; and an intermediate form with striped seeds, used both for eating and for the production of oil. In the United States also there are three principal varieties grown for the production of seeds. The common sunflower, with no distinguishing varietal name, has been long cultivated, and is now found in gardens in all parts of the country; its nodding heads are 8 inches to 16 inches in diameter, and produce chiefly grey-brownish or striped seeds. The mammoth Russian recently introduced into the United States has heads 15 inches to 20 inches in diameter, producing seeds about ½ inch long, with black or brownish stripes, or sometimes all white. The third variety, known as the black giant, has heads 16 inches to 22 inches in diameter, with rather thick black seeds about ⅜ inch long. For ornamental purposes the sunflower has long been grown in the United States, the beautiful yellow flower-heads with dark centres being particularly attractive. In Kansas the borders of the highways and railroads are frequently lined for miles with these plants, which in August and September, when in full bloom, form a very marked feature of the prairie landscape. As to the economic uses of the plant, the oil expressed from the seed is highly prized for its edible properties, which more nearly resemble those of the olive than any other edible oil. The cake left after the extraction of the oil by pressure is rich in nitrogeneous matter, and has a food value equal to that of the cake resulting from the expression of maize oil or linseed oil. It is, however, more palatable, and is therefore eaten with greater avidity than the other cakes mentioned. The stalk and branches, when reduced to a sufficient degree of fineness, possess nutritive properties of a high order, and furnish suitable food for horses, cattle and sheep. The most valuable product of the sunflower, however, is the oil which, by reason of its palatability and sweetness, is well suited for table uses, and in this capacity replaces olive oil more efficiently than any other known substitute. It is found that sunflowers grow best for commercial purposes in Kansas, Missouri and the Ohio valley, though many other parts of the United States are peculiarly suitable to the plant. In concluding a bulletin of the Washington Department of Agriculture, from which most of the foregoing facts are derived, Dr. Wiley, chief of the division of chemistry, gives the following summary:—(1) The sunflower is a plant which can be grown successfully over large areas in the United States. (2) The chemical analysis of the whole plant shows the crop to be one which makes a considerable drain upon the elements of soil fertility, and it should therefore be cultivated with due regard to this point. (3) One of the most valuable constituents is the oil which exists in large quantities in the seeds. This oil is formed by direct synthesis in the process of growth, and does not diminish to any great extent the fertility of the soil. (4) The economic production of the sunflower plant is confined almost exclusively to Russia, where it is an agricultural industry of considerable importance. (5) In the United States the sunflower is grown as an ornament and for the production of seeds, which are used chiefly for poultry and bird-feeding and for condimental and medicinal purposes with farm animals. (6) The oil of the sunflower is not produced commercially in the United States; it is very palatable, and makes, without refining, an excellent salad dressing. The residual oilcakes have a high nutritive value, quite equal if not superior to that possessed by linseed and cotton seed cakes. (7) In the cultivation of the sunflower the methods pursued for growing maize are to be followed, and the plant is capable of cultivation over almost as wide an area as maize.

TESSERÆ.

Perception of Form and Colour.

It has been commonly observed that no two people see the same object alike, but this refers rather to the impression formed in the mind than to the effect produced on the eye, and the image is the creation of feeling and not of mere sight. For, apart from local form and colour, the character of any object or scene in nature must be materially affected by the mind of the spectator, so that any number of painters may produce as many different representations of nature, all, it may be, equally true, and yet each possessing some distinct quality which shall not be perceptible in the others. Hence arises that great feature, namely, individuality, without which there can be no real genius and no mere imitation of which can ever make a really great artist. And herein lies the great difference between art and science, and hence is felt the utter futility of believing that by any combination of the genius of others, perfection may be ultimately attained. For unless the same motives exist (an hypothesis hardly to be entertained), what has been really done by one artist can never be really done in the same distinctive manner by another. The variety of nature is so infinite that no two minds, any more than two leaves, however similarly constituted, can ever be wholly alike, but each shall possess some distinguishing feature to mark its own specialty.

Kingdoms and Shires in England.

It is a great thing for a county to coincide with an ancient kingdom and to keep the name of the kingdom. We can understand the feeling with which the people of such a kingdom still look down upon "the shires" It must be confessed that counties like Leicestershire, Northamptonshire and the like are historically rather dull. Great events may have happened within the limits, but the counties themselves have no personality, no quasi-national being. They are just so many square miles mapped out round the town which gives them its name, and mapped out most likely as late as the tenth century. The West-Saxon shires with their tribal names, the shires of the Sumorsætas, Dorsætas and Defnsætas, are several degrees better. Still, they are not kingdoms. Essex and Sussex, as kingdoms, have the advantage over them. Still, Essex and Sussex are not strictly names of countries. They simply mark the geographical position of two bodies of Saxon settlers. But Kent is a real name of the country, older than Hengist, older than Cæsar. Its only rival is the other peninsula at the other end. But however Cornwall may rank in the eyes of Welshmen, Englishmen cannot admit it as an equal competitor with Kent. In English eyes it is not a kingdom but a province. But Kent is a kingdom, and in many things it is the first of English kingdoms. It takes the lead in everything; the Roman and the English Conquests begin within its limits, and so does the later conquest of the spiritual Rome. And, though no part of England seems so thoroughly exposed to all sorts of foreign influences, there is no part of England which boasts itself so proudly, and to a great extent not without good reason, on the retention of much of ancient English usage which has vanished elsewhere.

Neolithic Weapons.

Among the immense accumulation of weapon or implements of the neolithic age but few are considered to have been designed for purposes of war. The spears, harpoons and hooks of bone or flint seem to have been exclusively intended for fishing or the chase. The hammers and other articles less easily identified appear fitted to the domestic use of a people of an unwarlike kind, such as the Esquimaux. It may be thought curious that nothing has come to light showing the kind of stone instrument actually made use of in furnishing these various implements. The process, however, may be readily inferred from what has been observed among various savage tribes in our day by navigators, as well as from experiments in imitating the efforts of these early workers. Whatever may have been the tools wielded by the cunning hands of modern forgers, it is clear that no appliances of metal were needed to shape and polish the material of these exquisitely wrought objects. It was simply by means of a bit of granite, quartz, or other hard stone, or of a stone hammer deftly plied, that the axe, spear-head, or flint knife was chipped into shape and wrought to a sharp edge. Some of these hammer stones show grooves or finger-holes for convenience in holding; others are pierced, as if for suspension by a string or thong, or for being fixed to a handle. Other implements may reasonably be referred to the class of whetstones used for grinding and polishing stone or bone. Most of these are oblong in shape, polygonal, thin in the middle and thicker at the ends. Some are as much as 15 or 16 inches in length, others only 4 or 5 inches. Such stones are still in use, it is said, among the women of Greenland for grinding their needles of bone. Certain articles of this kind have been absurdly set down by some as touchstones for assaying metals, whereas they are repeatedly found in graves far older than the use of metals in the North. Javelin points of various make abound, both of bone and flint. In some cases, as in those now in use in the Kurile Islands, thin sharp flakes of flint are inserted in a groove deeply indented along both sides of a haft or handle of bone, and fastened by means of a strong black putty resembling pitch. A resin of the same kind forms the chief ingredient in the curious lumps called "pigmy bread" or "incense loaves," which are found in the earth or in bogs, and which Hühnefeld quite seriously considered to be petrified Scanian bread. Of these javelins some were thrown by the bare hand, others by means of the throwing stick. Both wooden slings and ribbon slings were employed for hurling stones, as by the Greeks, or as we see pictured in Lepsius's great work upon the monuments of Egypt. Articles of mere ornament are met with of amber or rude glass, beads of which have been found surrounding the necks of skeletons in gallery graves. Vessels of burnt clay were placed, together with stone weapons and ornaments, in the most ancient graves, not to hold the ashes of the dead—for bodies were not then burnt—but probably with the notion of supplying the wants of the departed.

Art and Religion.

A modern writer on Greek art has to decide whether art has or has not reached perfection—if it has, where? and how? Can a Christian attain it on the old Pagan principle? and must he remodel impure deities, in whom he does not believe? This fact cannot be controverted:—Religion has in all ages been the vital principle of the highest art. It was so in Athens when Phidias shaped out his Minerva; it was so in Pisa when hooded men painted the Campo Santo To religion we owe the Apollo and the Venus, the Elgin frieze and the Theseus, Raphael's *Ascension* and Leonardo's *Last Supper*. No other feeling of he mind has been found capable of producing like wonders. Redundancy of animal vigour gave us a Salvator Rosa, a commercial principle Ostade and Denner, and personal vanity Kneller and Lely. Allow, then, these facts, which the experience of the past seems to assure us are indications of an inherent principle of human nature, and not the result of accident, and to what inference do we come? That religion being the deepest, is the most powerful feeling capable of existing in the mind, and that religion produces the highest art —not another man's religion, be it remembered, one that we laugh at and despise, but our own, the guide of our faith and the principle of our action. If we are answered that Christian subjects do not admit of a sufficient display of the nude, and that the nude is necessary in an art whose province is form, we must conclude that, such being the case, sculpture can never again attain to its past perfection, and having acknowledged such limitation and inferiority, we have nothing left but to admire and measure, and copy and go on till the end of time, casting new metal in the old mould.

Effects of Familiarity with Architecture.

The passion of admiration, requiring something ever new, those objects which excite the wonder and admiration of strangers are viewed with indifference, bordering on frigidity, by the natives of the country in which they are situated. Totally unconscious and sometimes utterly unworthy of the beautiful country in which they live, they require some one to point out to them the lovely scenes by which they are surrounded, in the same manner as many a nobleman of England, Germany and Italy know the value of their own paintings and sculptures only by the applause bestowed on them by learned and enlightened strangers. Thus was it when Petrarch visited Rome in the fourteenth century. While viewing the fragments of temples, the remnants of statues, the falling porticoes, the baths, the aqueducts, the tesselated pavements and, above all, the gigantic ruins of the Colosseum, he was indignant to find that the Tribune Rienzi and his friend Colonna were alone conversant in the history, and appeared alone to sympathise in those noble and magnificent ruins. "No one," said he, "were more ignorant of Rome than the Romans themselves."

GENERAL.

Messrs. P. W. & C. S. Meik, the engineers entrusted with the building of the tunnel to connect England with the Isle of Wight, hope to begin operations in September. The total length of the new line will be 8 miles, but that of the tunnel proper will be no more than 2¼ miles. Of the estimated cost of 550,000*l.* as much as 400,000*l.* will be spent on boring under the Solent.

New Buildings for the City of London Asylum, Stone, near Dartford, were inaugurated last Saturday. A new detached chapel to accommodate 350 persons was dedicated at the same time. It was stated the Corporation authorised the visiting committee to spend no less a sum than 85,000*l.* to improve the asylum. Altogether the Corporation had devoted something like a quarter of a million of money in building and in land, and they contended that the Institution had been carried on at a lower rate than any similar Institution in the Kingdom.

The Institution of Mechanical Engineers held their annual conversazione, which marks the close of the session, last week at the Institution premises in Storey's Gate, Westminster. During the evening Sir Benjamin Baker showed upon a screen and described pictures of the great Nile dam. The Institution, which has now over 3,000 members, will hold its annual summer meeting during the last week in July at Barrow-in-Furness.

An Executive Committee, formed last Friday to perpetuate the memory of Sir Arthur Sullivan, have expressed a desire to place in some public position (the Embankment Gardens, immediately in front of the Savoy Theatre, was a position which found favour) a statue or bust of the great musician if the necessary permission can be obtained from the First Commissioner of Works. Permission has been already granted by the Dean and Chapter to erect a monument to him in St. Paul's Cathedral.

Mr. Henry Edwin Foster, senior partner in the firm of Messrs. Foster & Cranfield, auctioneers and surveyors, of the Poultry, died last Friday. The deceased was a Fellow of the Surveyors' Institute.

The Wallace Collection will in future be open to the public on the two paying days, Tuesday and Friday, at 10 o'clock, instead of as hitherto at 11. The hours of opening on the other days remain unaltered. On Whit-Monday the museum will open at 10 o'clock instead of, as usual on Mondays, at 12.

The Vote this year for the salaries and expenses of the Office of Public Works and Buildings is 56,450*l.*

The Historical Fortification known as the King's Bastion at Portsmouth is not to be destroyed by the War Office, but some slight modifications which were necessary have been made in the eastern portion. The main portion will remain untouched.

An Interesting Archæological Discovery was made in Peterborough Minster precincts last week. In the course of removing the rubble which filled one of the many pointed arches in the wall at the eastern extremity of the Palace Gardens a window of beautiful tracery was revealed. The stonework was in an excellent state of preservation and only a small portion of one column was missing. It is intended to unseal the neighbouring arches in the hope that similar archæological treasures may be found The wall originally formed part of a passage leading from the cloisters to the monks' kitchen.

Mr. Orlando Norie, painter of military subjects, died last week at the age of sixty-nine. His spirited sketches had considerable popularity, and Queen Victoria gave him commissions from time to time.

A Monument to the memory of the late Rosa Bonheur was unveiled last Thursday at Fontainebleau, near which town she resided for many years. The monument has been given to the town by M. Gambart, Spanish Consul-General at Nice, an old friend of the deceased artist. It was executed by M. Isidore Bonheur, the late artist's brother, and M. F. H. Peyrol, her nephew. The faces of the pillar, upon which stands a bronze bull, are decorated with bas-reliefs, giving her portrait and representations of three of her principal paintings. The bull is also an enlargement of a sculptural work by Rosa Bonheur.

The Memorial Window placed in St. Giles's Cathedral, Edinburgh, to the memory of the late Major-General Wauchope, was unveiled last Monday. The window, which is in the Moray aisle, is 26 feet high, and has five upper lights and five lower lights, with tracery filling the arched top. There is an inscription at the foot.

Sir Frederick Bramwell's scheme for raised footways and higher level shops in streets rebuilt in Central London is being adopted on a small scale in a range of buildings now being put up in Bloomsbury. There will be rows of shops both on the ground floor and on the first floor, the entrance to the latter being from a covered arcade reached by stairways at either end.

The Work in connection with the new opera house, bank premises and shops at Tunbridge Wells has commenced. Mr. John P. Briggs, of Arundel Street, Strand, who has prepared the drawings, hopes to get the theatre portion of the scheme ready by Christmas.

Mr. W. J. Morley, F.R.I.B.A., of 269 Swan Arcade, Bradford, announces that he has taken his son, Mr. Richard Morley, into partnership, and that his practice will be carried on in future under the style of W. J. Morley & Son.

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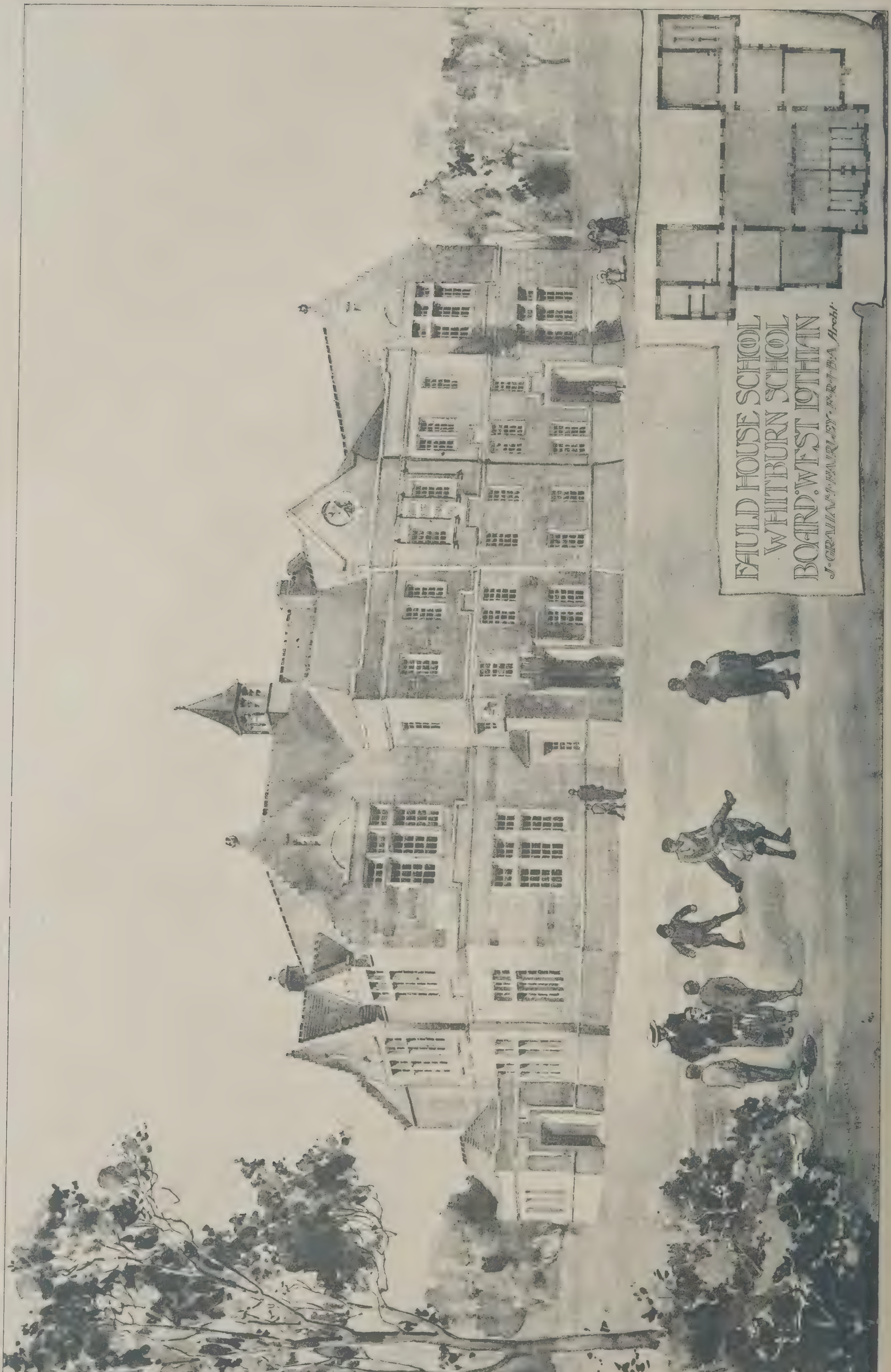

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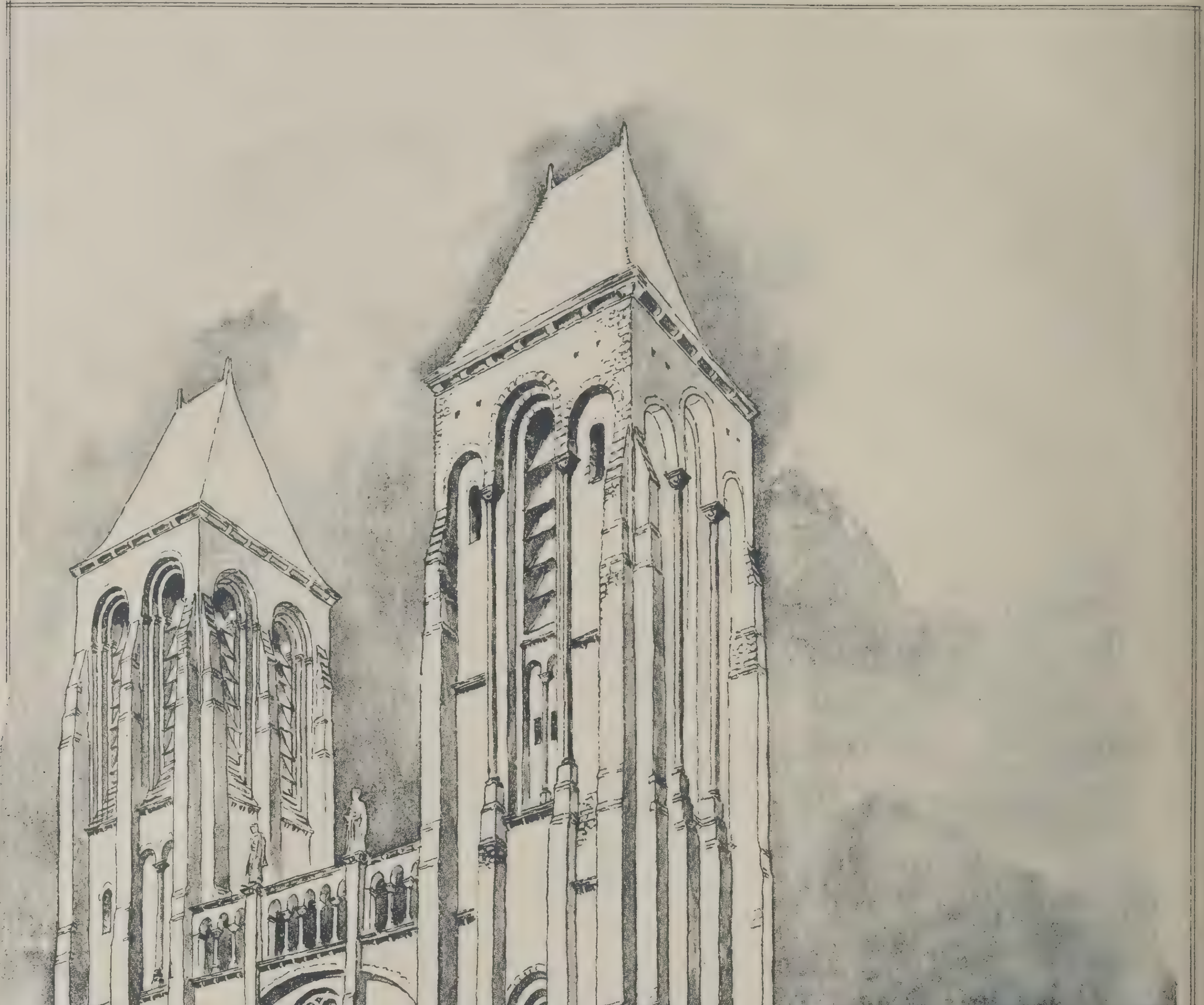
The Architect, May 24th 1901.



S. IGNATIVS STAMFORD HILL N

Benedict Williamson
Architect
4 Hillside Rd Stamford Hill

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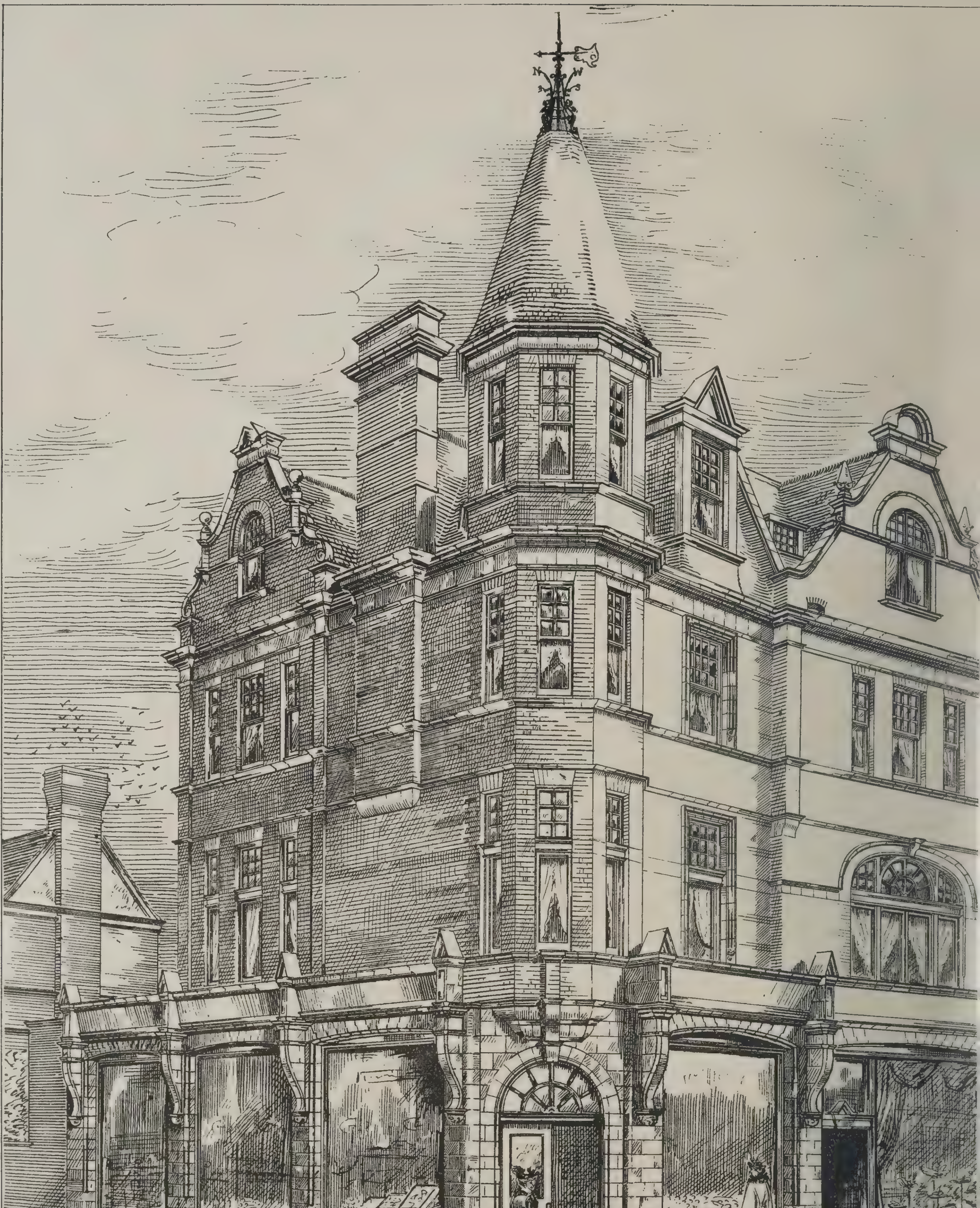

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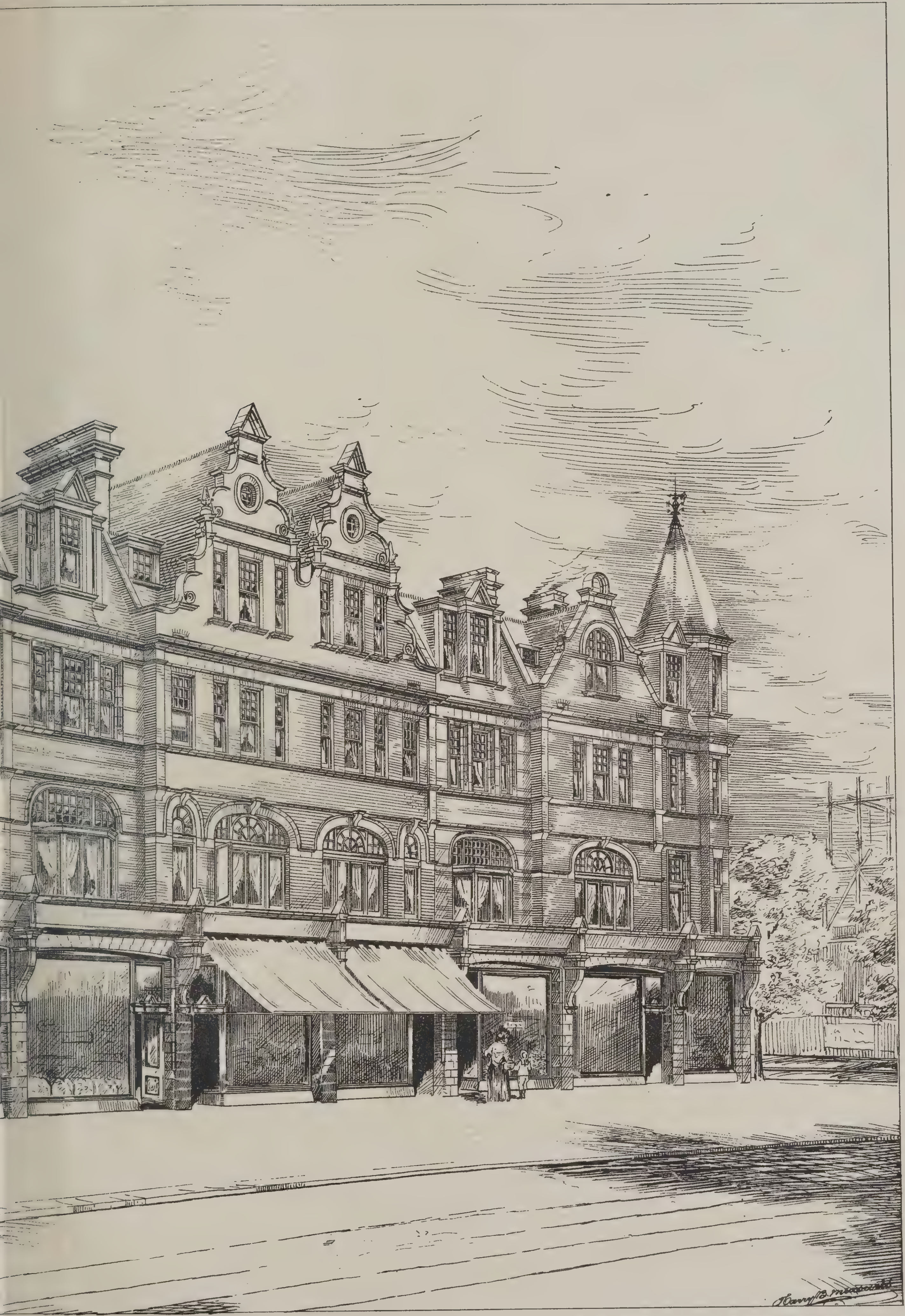

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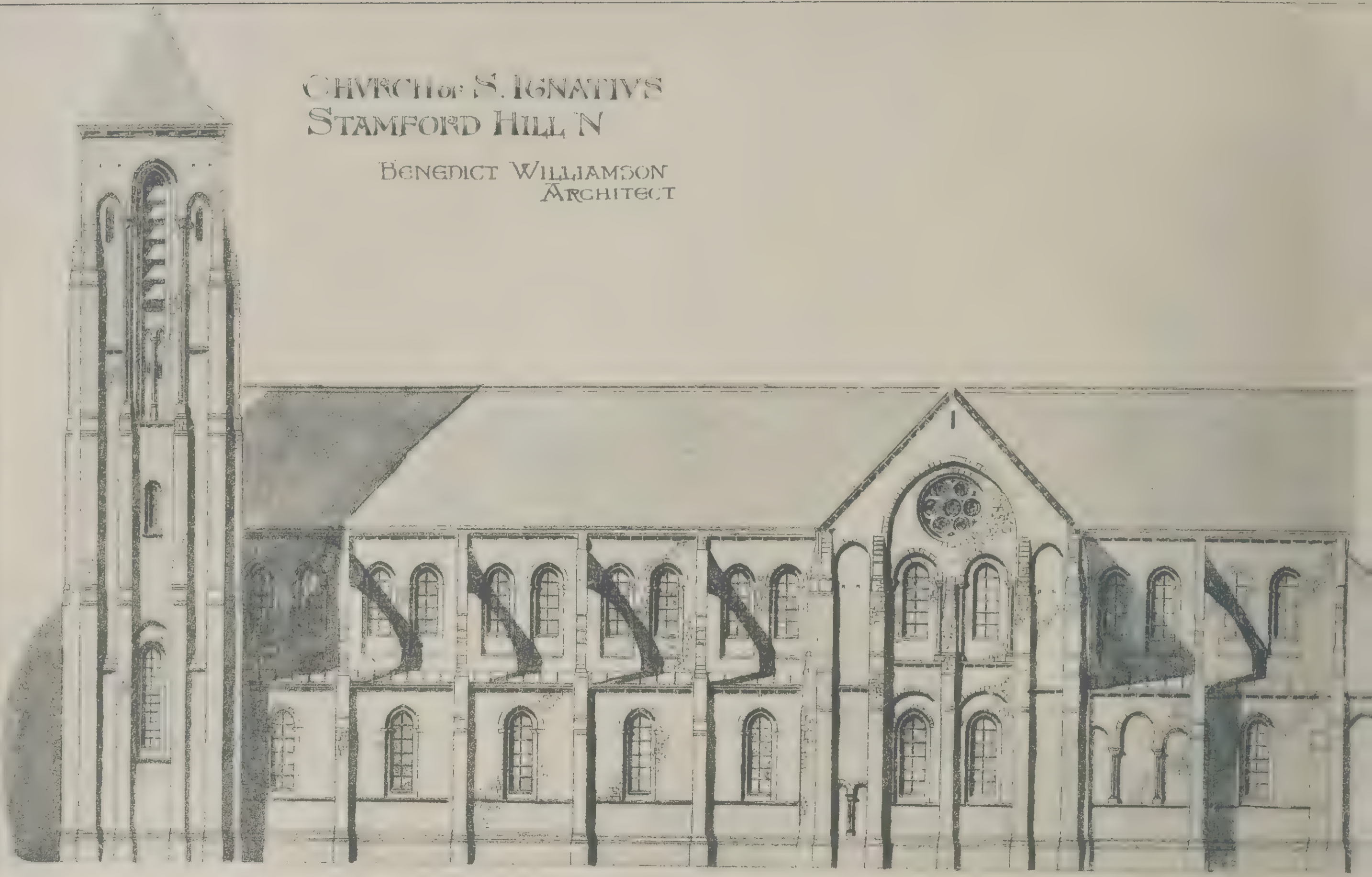
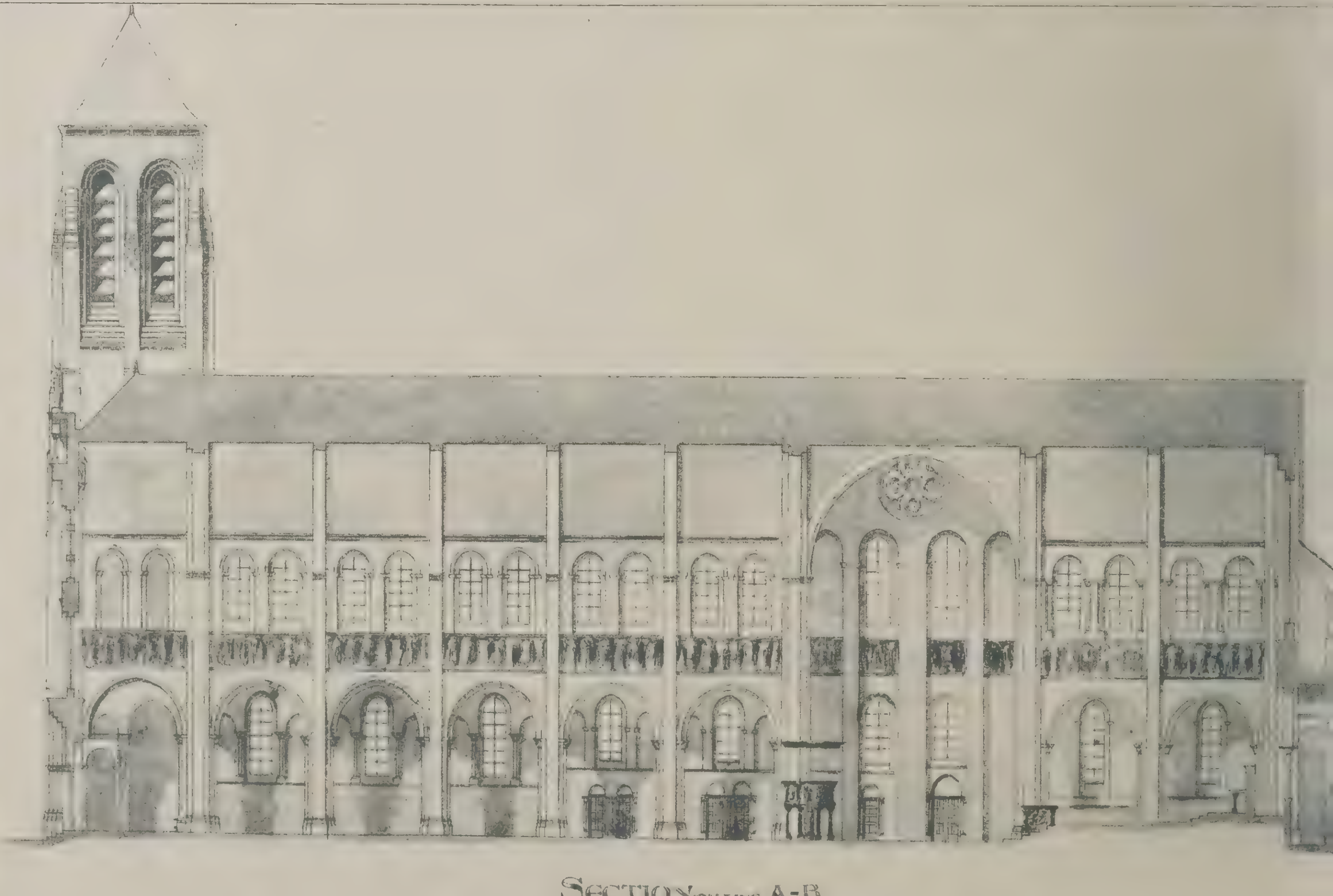


SIDE ELEVATION

Scale of Feet

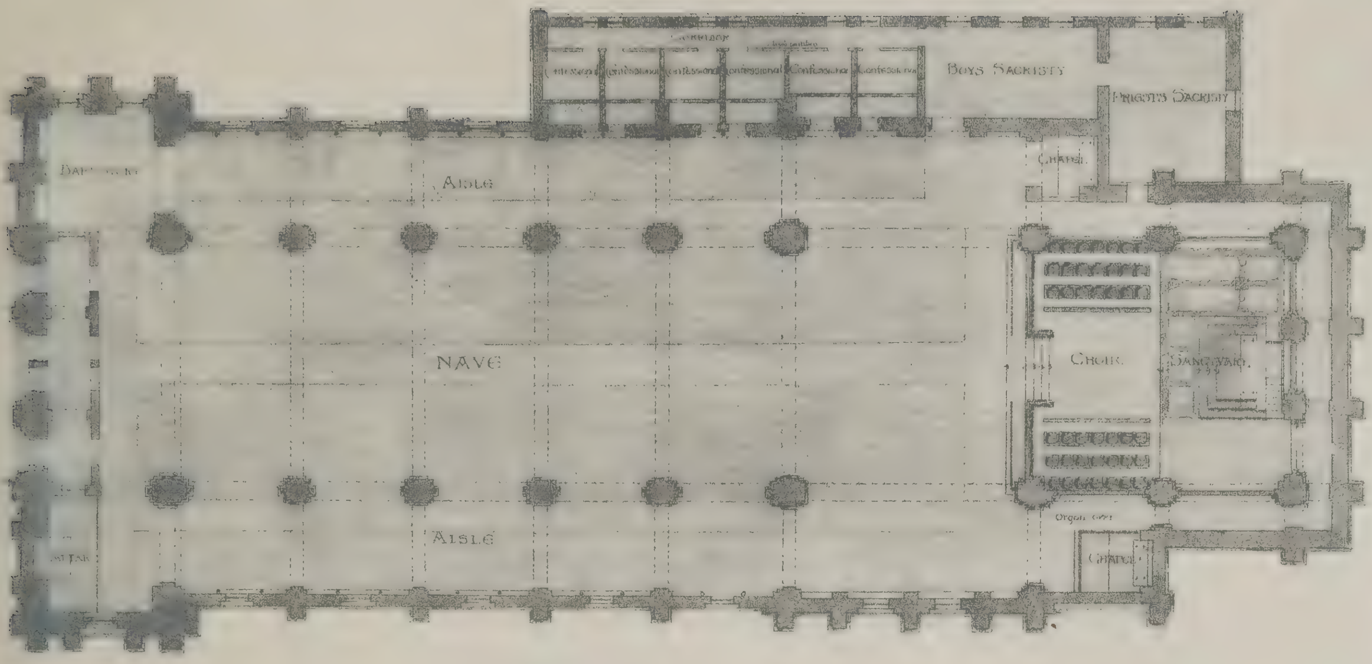
10 5 0 10 20 30 40 50 FEET



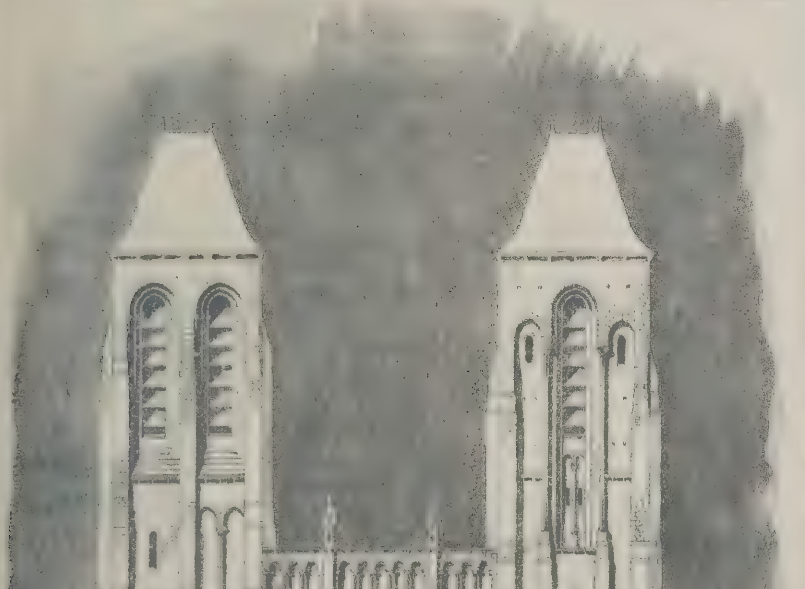
SECTION ON LINE A-B

Scale of Feet

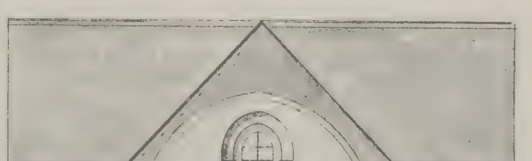
50 FEET



GROUND PLAN



FRONT ELEVATION



SECTION ON LINE C-D

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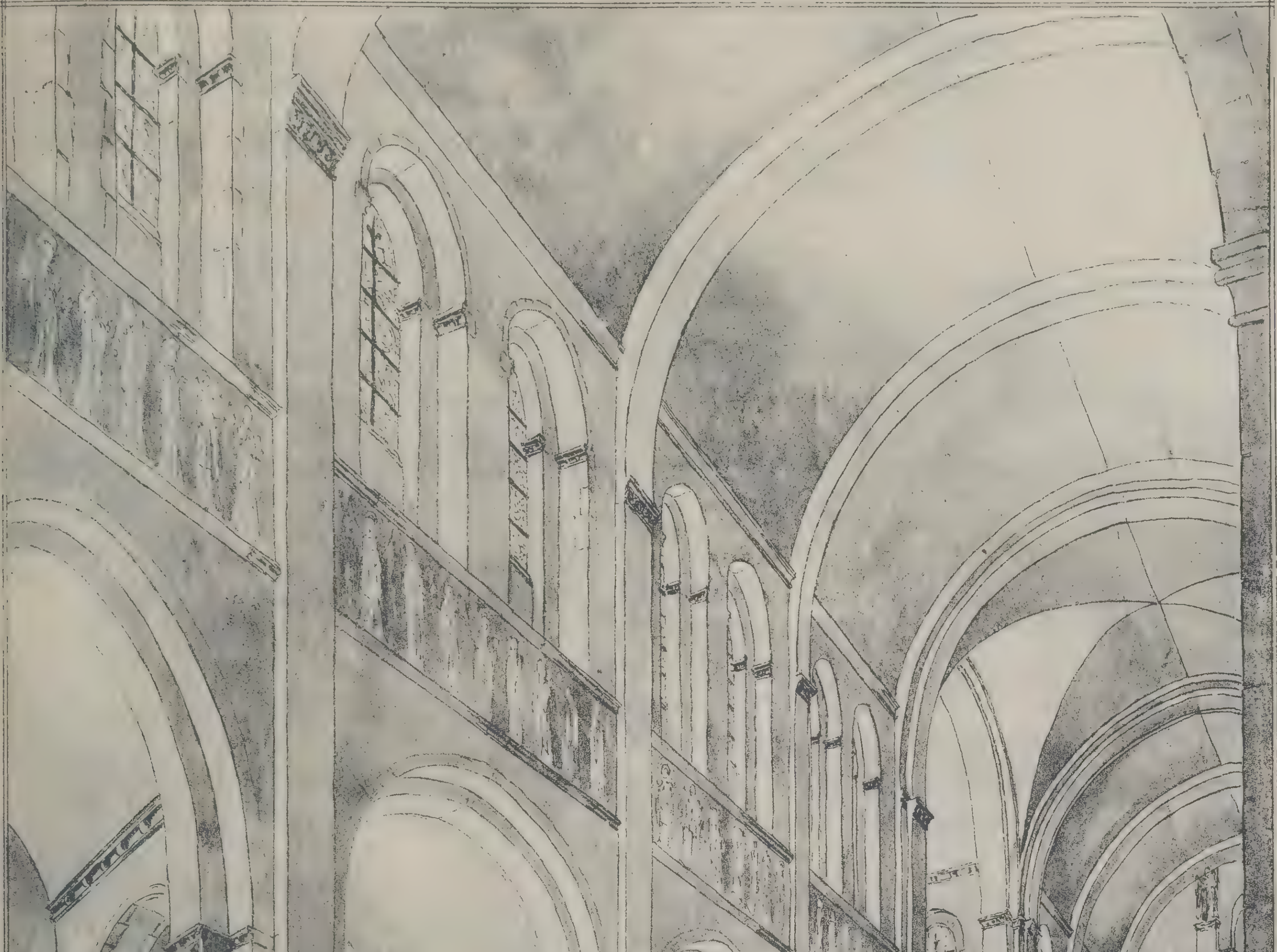

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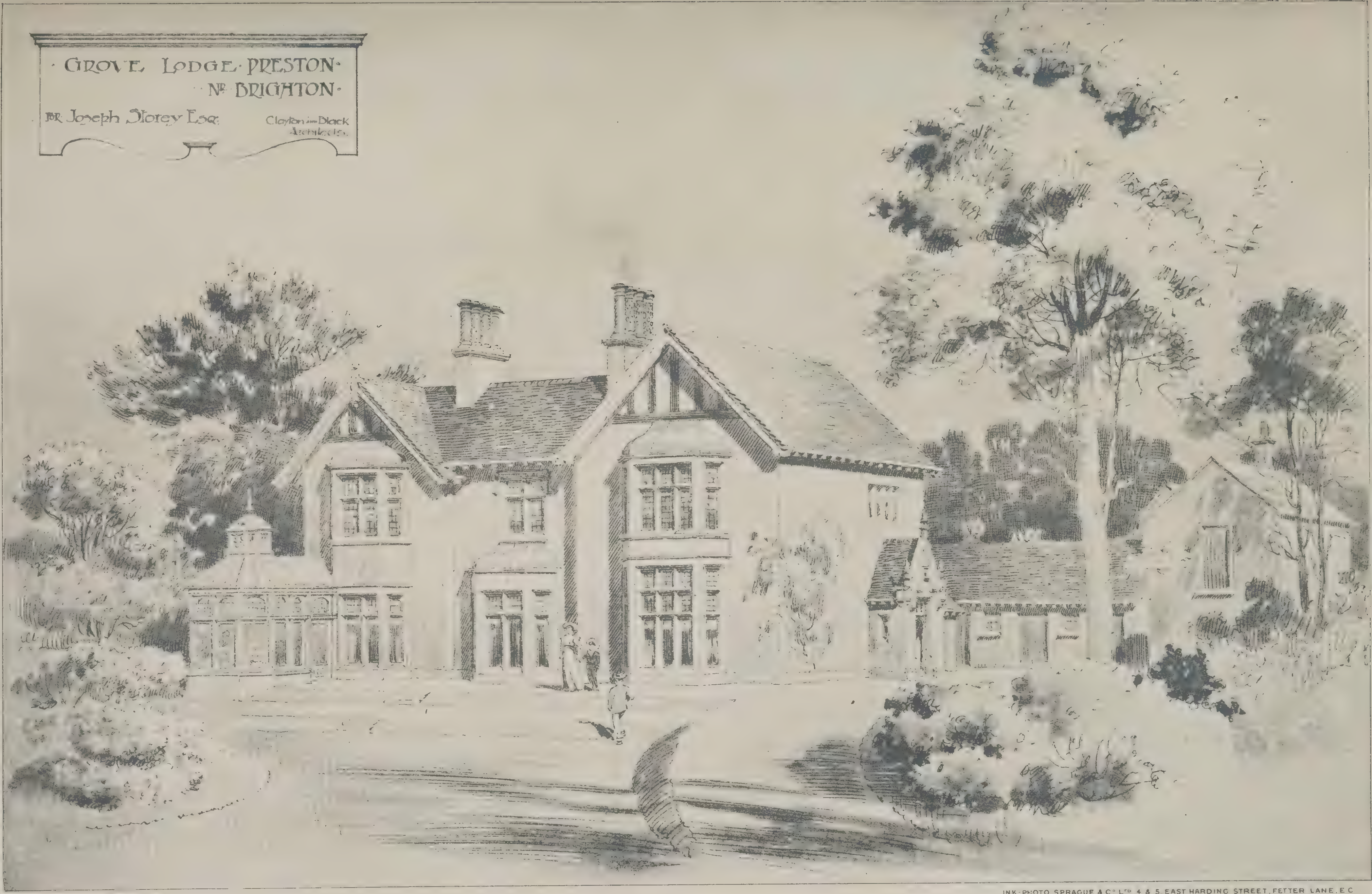

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THE WEEK.

Although the contest for commissions which has to take place every day between architects is more severe than what is found in other professions, there is generally an acquiescence in the justice of the case whenever a man has made a good fight and has gained success fairly and honourably by his own talents. This happened with the late John McKean Brydon, who died after a short illness on last Saturday morning. Born in 1840, in the historic town of Dunfermline, after an uphill fight he had attained a position which was almost a guarantee of success during as many years as he would care to practise architecture. He made his first acquaintance with an architect's office in Liverpool. Then he was able to serve under the stately John Bryce, of Edinburgh, and with Mr. Campbell Douglas, of Glasgow. But London is the goal of ambitious Scotchmen who follow art, and John Brydon was happy in being able to complete his education as an architect in the office of Messrs. Nesfield & Shaw. Like so many of his countrymen, his predilections were for the Italian style. This is especially seen in the buildings which he was able to erect in Bath. But he was not indifferent to the work of English architects of the seventeenth and eighteenth centuries, and the combination of Italian and Anglo-Dutch he favoured is exemplified in his hospitals in London and the public buildings he erected in Chelsea. As he prospered he took more interest in professional affairs. He could write a readable essay in which information was conveyed without any affectation of pedantry or superiority. He was an agreeable speaker, and, in fact, could be considered as one of the most genial types of Scotsmen. For his services to the Institute of Architects he merited his recommendation as an eligible candidate for the designing the proposed Government buildings at Whitehall. He was entrusted with the execution of the buildings on the west side of Parliament Street, including the offices of the Local Government Board and the Educational Department. In his designs it was evident he made no attempt to show he was superior to Barry, and he respected financial considerations. His buildings, when completed, would not be thought remarkable by those who believe there are no limitations to creation in architecture, but they were well adapted for business purposes, while presenting more of an architectural character than is usual in private establishments. That John Brydon should so soon have followed an architect who in so many respects resembled him, the late William Young, is extraordinary, and the loss of two men in whom so much confidence was placed must be an embarrassment to the Government. The last year of John Brydon's life was saddened by the loss of his son, who was a favourite pupil of Professor Silvanus Thompson, and who had already gained a prominent place as an electrical engineer.

Sutton Place, Guildford, is a mansion which was built by Sir Richard Weston, 1520-30. It is considered by many architects to be the finest example in this country in red brick and terra-cotta. The forecourt (the old quadrangle), with its enriched bay windows, entrances, buttresses and very fine parapets, is a lovely composition, and the garden front is most picturesque. The modern builder and decorator is now at work adding to and altering the mansion internally and externally, and unless the greatest care is taken this very fine relic of the past will be much damaged. It is said that the rooms under the old gallery are to be restored. Now, unless this work is given into the charge of some architect who has made this kind of work his especial study, the result will be to depreciate this grand old landmark and relic of a bygone age. It is risky to interfere with the rights of private owners, but in their own interests those who own buildings like Sutton Place would do well to respect the associations which are attached to antiquity, for all surveyors know that the preservation of picturesque peculiarities is a factor which enhances the market value of old mansions.

During the fifty or sixty years that have elapsed since the late Sir Robert Kane brought out his excellent work, "The Industrial Resources of Ireland," numerous attempts have been made to bring the various coloured marbles which are found over the greater part of the island under the notice of architects, builders and others. The hall of the College of Science or Industrial Museum in Dublin, which was created by the Government in order to realise Kane's theories about technical education, was lined with large slabs of marble from different parts of the country, in order to exemplify the varieties of colours and markings that were available. When Dr. Newman was appointed principal of the new Catholic University, one of his first acts was to have a basilican chapel erected, and a suggestion was taken from the neighbouring Museum of Industry, for in the interior the walls were in part lined with Irish coloured marbles. The difficulties of carriage have, however, prevented any general use of the material, even in Ireland. The most beautiful blocks are only to be found in mountainous districts which are remote from towns. The green marbles of Connemara have to be sought in a region that is fifty miles from Galway, which is the nearest port. A light railway was introduced by Mr. A. J. Balfour in Connemara, but it cannot be used for heavy traffic. Several speculators in London have endeavoured to meet the difficulty of transit, but without success. It is therefore remarkable that a New York firm has obtained possession of quarries at Lissoughter and has already supplied slabs for several of the large buildings lately erected in New York. This is the kind of American enterprise which deserves encouragement. Still, it should be remembered that it is much easier to convey stone from Connemara to America than to London. The western peasants used to say that the Americans were their next-door neighbours, and once a cargo is put on board at Galway the voyage across the Atlantic is less risky than around the coasts of Ireland and England. In fact, before the American stone trade was developed several churches and cathedrals on the east coast of America were erected with stone from the west coast of Ireland. It was obtained at a cheap rate, and was carried almost gratuitously, for it served as ballast.

In 1865 the late Mr. Charles Buxton resolved to mark the abolition of slavery among civilised nations by the erection of a drinking fountain at the corner of Great George Street, near Westmacott's statue of George Canning. It was a memorial, therefore, of labours which were commenced in the last century by Clarkson and Wilberforce, and in which Sir Thomas Fowell Buxton afterwards took part. The fountain is octagonal on plan, and is too multiplex in its elements to be comprehended at a glance by every passer-by or water-drinker. But with all its shortcomings the work is most interesting, because it was an early attempt to introduce polychromy in out-of-door memorials. Time has not been lenient in its treatment of the structure, for which the plans were prepared by Mr. Teulon. The Westminster vandal has also helped to bring about its present dingy appearance. As an architectural experiment it deserves a better fate, and we hope the Westminster Borough Council, to whom it has been offered by Mr. Sydney Buxton, will take care of its conservation in future years. It will not, however, be accepted by the local authorities unless it is restored to its pristine state, and that will be no easy operation.

The Madeleine in Paris is one of the buildings on which the reputation of the city for fine architecture is founded. Within and without it testifies to the affection for Classic forms. It may not be ecclesiastical in character, but visitors to the city are always ready to condone its shortcomings as a church on account of its artistic qualities. The Government were therefore to be excused if they incurred the risk of injuries arising to the Madeleine rather than during the exhibition year to allow the building to be enshrouded with scaffolding. Now that the Exhibition is over the reparations must be commenced without further delay. M. Bouvard, the architect, has at his command a sum of 330,000 francs voted by the State. This money is to be applied to the restoration of the colonnade. Expedition will be indispensable, and before the close of the year it may be assumed that the Madeleine will appear in the sound condition which it presented some twenty years ago.

THE STREETS OF LONDON.

EVERYONE who has studied the subject must have come to the conclusion that much of the meanness which is supposed to characterise the street architecture of London is owing to the neglected condition of the carriageways and footways. This is more especially true of streets containing shops. In squares and streets which consist entirely of private residences, the roads and pavements are in a cleaner state, and consequently there is less opportunity for the eye to dwell on débris of a kind which seems to be inconsistent as a co-existent with fine architecture. Anyone who will note the state of the pavements on Sunday mornings, especially in parts of the town where cleansing operations are not undertaken, can hardly realise the excellent character of the shops and stores as buildings, when it is perceived that the signs of business of the preceding day are of so debased or sordid a character. Can nothing be done to remedy a state of things which causes London to be undervalued not only by foreigners, but by most of those inhabitants who have had a brief experience in observing the contrast between the British Metropolis and continental cities?

The subject has been dealt with in a paper which has appeared in the Journal of the Sanitary Institute of the last quarter, and which was read by Mr. BLASHILL at one of the sessional meetings. The author has occupied a position which qualifies him to treat the subject with a knowledge of facts which an ordinary architect or a resident in London could not easily attain. At the same time, he is not bound by the official regulations which an officer of the engineering department of the London County Council or one of the metropolitan borough engineers has to accept as inevitable. For instance, it would be much easier to make the streets of London appear as if they were controlled by corresponding laws to those which are exercised abroad if a more abundant water supply could be utilised every day for street cleansing, and if the sewers could be freely used as conduits to carry off diluted slush. But with a city of the extent of London a slight addition to the quantity which has to be raised and removed from the sewers causes so much expense as to become appalling to those who have to exercise the duty of assessing taxes. A municipal engineer like Sir ALEXANDER BINNIE is bound to take into account the financial consequences of extra pumping rather than the agreeable appearance of his roadways. He is sure to point out how the result of less restricted street washing has had the effect of increasing the deposit in the Regent Street sewer from 9 inches to 2 feet 6 inches, and that all the matter had to be removed by manual labour. The gradients of London sewers must not be steep, and the mineral matter which forms a part of the dirt cannot be carried off by them without the employment of a more abundant water supply than is available. If London were to be laid out anew, and if capacious subways were constructed, a more efficient system of cleansing streets could be adopted. But subways are thought to interfere with proprietorial rights of water companies and gas companies, and therefore, apart from the expense, are not likely to be adopted until a broader view of common interests is taken by the legislature and by the people.

In justice to the engineers it must be allowed that the condition of the streets is far more acceptable on account of cleanliness and sanitation at the present time than was the case forty or fifty years ago. Mr. WEAVER, of Kensington, whose experience extends over that time, says that he once was able to have 100 loads of mud removed from the Brompton Road in one day, while now he would find it difficult to clear away 100 loads in a month. There is, however, more grumbling now about the present state of the roads than in 1857 or in 1860. Strange to say, he ascribes much of the dissatisfaction of the public to the introduction of untanned leather boots or patent shoes; so that leather is not without influence on street engineering. Major ISAACS, who for nearly half a century has had charge of the streets in the Holborn district, confessed that he has repeatedly rendered himself liable to heavy penalties because, in order to insure the cleanliness of the highways, he washed mud into the sewers of the Metropolis. But he is not alone as a law-breaker, and it cannot be said that in London the borough engineers are indifferent to the condition of the streets, or only perfunctorily discharge their duties in making arrangements to keep them in a proper state.

Dirt has been defined to be matter that is out of place, and the question is of what nature is the stuff which all agree should be removed as quickly as possible from the surface of metropolitan streets. According to Mr. BLASHILL, a good deal comes from the wear and tear of macadamised roads, less from granite and wood pavements, least from asphalte. Largest and worst of all the elements are horse droppings, and, finally, animal and vegetable refuse. Much, perhaps, is inevitable, but it cannot be denied that many additions to the dirt in the streets could be prevented if people would only take a slight interest in the amenity of London. A few days ago some young ruffians were charged in one of the London police-courts with throwing pebbles and wetted paper taken from the fountains at people who were walking in Trafalgar Square. Why were pebbles brought to such a place, and why was paper allowed to be thrown in the basins? A Paris *gamin* would not cast paper into the water in the Place de la Concorde or in any of the numerous public places in Paris, because he has an instinct that fountains are among the public monuments which adorn Paris, and in some way add to his own importance. In Berlin there is a wholesome fear of the police. To be dirty, says Mr. BLASHILL, is an offence, and the Berlin scavengers are as clean and respectable as postmen or policemen. But Trafalgar Square, which has so often been described as the finest site in Europe, can unfortunately be degraded to a large extent with impunity. There is no public opinion to be utilised for its rescue. The same spirit which animates the ragamuffins of London is, moreover, found in men and women who consider they belong to a much higher grade of society. According to Mr. WEAVER'S experience in Kensington, the amount of litter in the streets since the increase of newspapers, the opening of stores, and the importation of foreign goods wrapped in paper has been enormous. He has to employ special men at a cost of 300*l.* or 400*l.* a year to devote themselves to picking up paper, and if people, he said, would only burn paper instead of throwing it about, the rates of Kensington could be reduced a penny in the pound. It is no uncommon circumstance to find piles of cardboard boxes and wrapping paper cast out of a house on the street whenever a lady has been shopping and making bargains. Mr. NISBET BLAIR, the engineer for St. Pancras, said the police statutes in London were not observed. If a shopkeeper were remonstrated with for polluting the streets he abused the officials. So long as the citizens themselves deliberately become delinquents it is not to be expected that we can obtain the cleanliness which surprises the Londoner whenever he visits a continental city. It is possible to walk along the entire length of great thoroughfares such as the Rue Royale in Brussels without seeing a scrap of paper in the roadway, and anyone who would tear up a letter in the street or throw away an account just paid would draw public attention to himself. But then foreigners take an interest in their cities, whereas in England we endeavour to make them hideous, and worse would be done if the police were less watchful.

However the dirt may arise it has to be removed, and the problem is to find the most efficient and economical means of doing so. Abroad there is a more generous use of water than would be tolerated in London. By means of flexible pipes all the principal roadways are made clean, the dirt being carried away by the sewers. But the expense of such a system prevents the authorities in London from adopting it on an adequate scale. Mr. WARRINGTON, of Marylebone, said that he had made out an estimate for the system of cleansing the streets by the aid of hose pipes and hydrants. But he was afraid to inform the authorities of the amount. He was eager to have the wood paving washed three times a week, but it was found the parish finances would not be equal to afford more than one street-washing a week. Major ISAACS put the case in the fewest words when he said water was the element that was wanted. But water must be reckoned as almost a luxury when it has to be utilised for public purposes. The practice abroad is very different. In Vienna the streets are washed two or three times daily, and every shopkeeper must wash the footway in front of his shop twice a day, or else he is fined. In Prague the streets are washed several times daily. The alleys are visited four times a day, and garbage is picked up and the surface of the alley cleansed with water. In Buda-Pesth, according to Mr. Blashill, the streets are in such a condition that women can walk barefoot in them. Mr. Blashill was the first who designed a street orderly bin, and he holds that such receptacles are absolutely essential in public thoroughfares. In Glasgow there are hundreds sunk in the pavement. But there is no unanimity about their adoption. It was generally agreed that for the cleansing of the streets it was necessary to employ a more vigorous class of men than are to be seen engaged in the operations in most parts of London. Mr. Weaver, whose district is one of the most exacting in the Metropolis, believes in steam-driven cleaning machines for the streets. A German machine that is still in use at Berlin was introduced in London five-and-twenty years ago. But as for each the sum of 100*l.* was demanded, they did not find favour with the authorities. Mr. Weaver lately bought two at a sale for 5*l.* each, and finds them useful. He considers that a very effective machine could be obtained by attaching a revolving squegee to a water-van. Mr. Weaver attributes the unsatisfactory conditions of the roadway in several cases to the opening of trenches in the streets by public authorities and others. When it was known that a street was to be torn up there was no use in taking especial care of it, for the work performed would be described by parochial censors as a waste of the ratepayers' money. During the year 1900 in Kensington along eighty-six miles of public roads 3,928 trenches were opened by various companies, and in addition to these openings, trenches for electric-lighting mains were opened to the extent of seven and a half miles, and for National Telephone Company's mains to a length of nearly nine miles, making sixteen and a half miles or about one-fifth of the entire road mileage of the borough. The total cost of surface reinstation of trenches during the year amounted to 4,625*l.* We suppose there is no city in the world in which roads are subjected to so many inimical powers, and it is fortunate they cannot speak, otherwise many strange histories of wasteful demolition would be revealed.

As respects the material to be employed in road-making, Mr. Blashill is an advocate for macadam, but with smaller stones of granite and mixed with boiling pitch. This, he says, would be very different to the macadam now usually employed. That is a subject on which there is much difference of opinion. Mr. Nisbet Blair considers that granite is not a suitable material for using with tar, because it is non-porous. Limestone has been used in many towns, and it makes a surface almost as smooth as asphalte, with a better foothold, but it will not carry heavy traffic such as that in London. It would not carry omnibus traffic for more than a short time. Mr. Blair tried an experiment in the Camden Road to see if a harder material than limestone could be used, and laid down tarred macadam. It was expensive to prepare, was 6 inches thick, and was laid on a hard bottom, but the omnibus traffic caused it to disintegrate altogether. Other materials have often been used—ironstone or slag. These may answer, but granite is not a suitable material. Mr. Waddington was of opinion that stones 1½ inch in diameter could not withstand a 10 or 12 ton steam-roller.

The conclusion to be drawn from the paper and the discussion is that with all their defects the streets of London have as much excellence as can be obtained for the money expended on them. To educationalists it will not seem to be disproportionate that the whole expenditure on the streets of London is much less than what is paid for the support of the Board schools. "While I pay 7*d.* in the pound half-yearly for schooling, with whatever there may be to show for it," says Mr. Blashill, "the total cost of paving, watering and cleansing is only 5*d.* And I ask whether we should really be brought to ruin by lavishing an additional 1*d.*, or even a much begrudged 2*d.*, on making usable and tolerable—and, at any rate, visible—the pavement that is supposed to be of gold?" When we find the engineer for Marylebone declaring that if he could only obtain the additional sum of 3,500*l.*, the product of a halfpenny rate, the streets of his district would present an altogether different appearance, it is evident that a penny or twopence extra would work marvels in the condition of the streets. Few representatives of the metropolitan boroughs would have the courage to propose that the school rate should be reduced in amount, and there would not be much advantage in doing so. At the same time it seems hardly fair that London should be made less agreeable to its inhabitants because of expenditure of another class. The shortcomings of the streets are not to be ascribed to the indifference of the surveyors. One speaker at the Sanitary Institute proposed that every candidate for a surveyorship should be tested by examination in order to discover whether he could ride a bicycle, drive a long stepping horse in a two-wheeled cart over asphalte on a wet day, and was able to walk in a high hat and a frock coat on the kerbstone in the rain. Then it was said surveyors might have acquired respect for their fellow-men, for they would know by experience what was most required. But however excellent a surveyor might be as an equestrian, it would be impossible for him to spend all day and be at several places simultaneously on the watch to see whether shopkeepers in breaking up packing-cases on the footway allowed some of the nails to drift into the road to the risk of horses' feet. Although an engineer holds the position of surveyor to a borough, and has to be responsible for the cleansing and repair of streets, some consideration should be shown to him. As Mr. Weaver said, if municipal authorities would only employ proper engineers and follow their advice, a much better state of things would exist than is at present the case. For now if a man thought more of his duty than of his own interests, he very often came into collision with those who had his fate in their hands, a state of affairs which is not an incentive to enthusiastic exertion.

THE GEORGIAN PERIOD.[*]

At the present time we appear in England as if we are all about to be purchased by American millionaires. It is forgotten for the moment that most of the money which would be required has been borrowed from England, and that the purchasers are blood-relations whose qualities of acquisition have been over-developed in the Western Continent. Few people should therefore consider the ambition of Americans to monopolise England and her workshops presumptuous. For when we find a man like Mr. A. Carnegie exceeding all English precedents in his generous efforts to promote knowledge and the power that springs from knowledge, it is difficult to resist the conclusion that it would be a benefit if more English emigrants or their descendants were to return among us and use their energy and wealth for our advancement. The effect of the new ambition will be to efface still more the line of separation by which Americans were distinguished from Englishmen. Many other causes have operated in the same direction, and it must be said that one of the earliest among them was architecture.

The splendid drawings of buildings which are so creditable to the students of the Massachusetts Institute of Technology form essentially a record of the surviving examples of the period which is the most important in the history of the United States, but a series of supplementary plates are now given showing contemporary buildings in England and Ireland, and on seeing them together every one must feel how close was the resemblance in the details of building on both sides of the Atlantic. It would be impossible for people who lived in similar houses on one side of the ocean not to feel a sense of home when they came to reside in similar buildings on the other side. In that way the germs of affinity would be revived, and would easily be cultivated by other circumstances as time went on.

It was not merely English forms which were transplanted, but many of the old fashioned English ways. George Eliot once wrote a lamentation over the departure of the good old gentlemanly leisure from this country. Incredible as it may now appear, leisure must have settled down for a time at least in some parts of America. In Annapolis, which was known as the "social

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[*] *The Georgian Period*, being Measured Drawings of Colonial Work by Sundry Pupils of the Architectural Department of the Massachusetts Institute of Technology during the summer schools of 1894-95. (American Architect and Building News Company, Boston.)

Athens of America," everything conduced to the leading of a quiet life. The builders took their time, and the clients bore delays with exemplary forbearance. The fierce expedition which is now witnessed by night as by day in the erection of cloud-capped piles was then unknown :—

> Amongst other things the colonist learned to cultivate was patience, a virtue which must have been sorely tried when the original owners undertook to build these substantial brick houses, using for walls the imported brick that was brought as ballast in the light-freighted vessels that came to load up with heavy hogsheads of tobacco. It required six or seven years to build some of the brick mansions on the Virginia rivers, and probably some of these Annapolitan houses took hardly less time. Another virtue that waxed stalwart because of this closeness of companionship was neighbourly good-will and common sense.

The streets of the city of Annapolis are laid out on the cobweb system, and the stranger, therefore, has no difficulty in finding his way to the centre of the city. GEORGE WASHINGTON, it is said, advised that the city which was to bear his name should be formed on a similar plan. There is also a tradition that Annapolis was laid out from one of the plans prepared by WREN for rebuilding London after the Fire, and it is said that the State House, which is the central object in the city, was designed by JOSEPH CLARKE, who was one of WREN'S pupils. In another part of the continent English forms arise under very different circumstances. The early Puritan settlers were more than enough to occupy Boston, which at the time could have been no more than a village of restricted area. The emigrants who followed from England had to seek a refuge elsewhere, although it could only be one of a most insecure kind. According to HOLLAND, "There is hardly a square acre, certainly not a square mile, in the Connecticut valley that has not been tracked by the flying feet of fear, resounded with the groans of the dying, drunk the blood of the dead, or served as the scene of toils made doubly toilsome by an apprehension of danger that never slept." Springfield was consumed by fire which was lighted by the Indians in 1675, and other towns repeatedly suffered in the same way, but English doggedness prevailed, and finally the savages were worn out. Readers of HAWTHORNE'S books will remember the name of PYNCHEON. One of the family erected a house in 1660, and about the same time sold boards at his sawmill at 4*s.* 6*d.* per 100 feet. That in so unsettled a time efforts were made to keep up Classic traditions and to extend the influence of the Orders must be acknowledged to be evidence of innate good taste. The eighteenth and early nineteenth-century churches also show, like the houses, the power of English prototypes over those who had fled because they wished to be free from English conventions.

It is satisfactory to find that the Americans are proud to possess examples of seventeenth-century work. The Mitford Historical Society have purchased the Whippel House, Ipswich, Mass., and value it no less than the Parisians do their Hôtel Cluny, although it is not of older date than 1642. Efforts have been made to enrich it with furniture and utensils belonging to the seventeenth century, in order that future generations may learn what kind of home was occupied by their ancestors in New England. We could not in England employ timber as liberally as was done in America, and on that account there may be occasional differences in the features of the houses in the two countries. But the writers of the essays which accompany the illustrations of "The Georgian Period" always endeavour to make it clear that in America English types were followed directly or indirectly. Thus, in speaking of the piazza, which is supposed to be the creation of some warm climate, it is said :—"It is very commonly assumed that the piazza is, if not a specifically American architectural device, at least one which is not indigenous to England. But the double galleries of the Southern plantation-house so distinctly recall the courtyard galleries of the old English inns from the time of ELIZABETH, the Virgin Queen, down to that of SAM WELLER, that it is not impossible that the ubiquitous piazza of modern American architecture may be derived from the Shakespearean inn, *viâ* the houses of Southern and West Indian planters."

Measuring and drawing buildings which arose under social circumstances like those which prevailed in the Southern States of America would be enough to test the industry of any society of students. "The Georgian Period," if so circumscribed, would be an undertaking of which a technical journal like the *American Architect* might be proud. But by widening the district and seeking in England and Ireland for examples, the whole character of the venture is altered. The Georgian period is not to be bounded or severed by an ocean, and American work is brought not only into relation with the English examples from which it was derived, but kinship can be claimed for it with the architecture of various continental countries, and with the still older work of Rome and Greece. According to EMERSON, the hours should be instructed by the ages, and in the same spirit the American architect or the carpenter can have the satisfaction of feeling that he is employing patterns that originated in days so remote that all record of them is lost. On the other hand, all who utilise Classic details in this country will have their répertoire increased by the variations which arose in America, and which from their intrinsic merits have a claim to be considered with respect and valued as gems long concealed.

ROUND ABOUT THE LOWER LOIRE.

By REV. W. S. DIXON.

IN the present article it is proposed to consider some of the more interesting buildings (chiefly churches) which lie within a triangle of which the three angular points are Paris, Nantes and Nevers. The majority of the places included lie upon the Loire itself, but we shall also refer to the two famous cathedrals of Bourges and Le Mans, which lie respectively south and north of the river, but just within the limits of the triangular space.

It is well known that within this district lie some of the most famous of the French châteaux. It is not proposed, however, to treat of these in the present article, partly from want of space, and partly because they have already received ample attention.

It will be convenient to commence with Nevers and work along the river towards Nantes. Nevers is reached from Paris by passing through Fontainebleau and Montargis, both deserving a short stay, the former for its palace, and the latter as a quaint old town of the Middle Ages connected with the legend of the "chien de Montargis."

Nevers is a town of decayed beauty and importance. Many an old fragment may be found by rummaging among its back streets—for instance, ruins of a fine Romanesque-Byzantine church (St. Sauveur) of the twelfth century, forming part of the stables of the Hôtel St. Louis by the Pont de Loire. In the museum in the Porte du Croux (to be presently alluded to) are a tympanum and some capitals from this church, bearing witness to the influence of Byzantine art. But of those which remain in a more conspicuous position the cathedral, the church of St. Etienne and the Palais de Justice chiefly invite attention. The cathedral of St. Cyr is partly Romanesque and partly Gothic. It is one of the few churches in France which have the apse at both the eastern and western end. That at the west is Romanesque, with crypt and frescoed ceiling, this being the original position of the high altar, which at the rebuilding was transferred to the east end, which is Gothic (early thirteenth century); the tower is Flamboyant. Owing to the double apse the entrance to the cathedral is by side portals only. The orientation is irregular, for the choir, as seen from the west end, inclines to the right; to obtain a full view it is necessary to stand at the north side of the western apse. The nave in the interior consists of five bays, in each of which the triforium has three trefoiled arches, and the clerestory two lancet lights. In the choir a balcony covers the lower part of the clerestory windows in place of a triforium. More uniform than the cathedral is the church of St. Etienne, a stern example of Early Romanesque. The present building dates from the eleventh century, at which date it was taken over by the Benedictines under Hugh of Cluny. The exterior of the rectangular transept (with its short hexagonal tower and flanking apses) and of the central apse with its arcading and adjacent chapels are of a rugged simplicity. The external gallery in the apse is a feature of Romanesque in the province of Auvergne, south of Nevers, and may have been borrowed from Pisa and North Italy. The interior shows some fine tower arches, shafts and capitals of Romanesque type, but the whole has a sombre effect, and the east end contrasts strongly with the brighter appearance of such a church as St. Bartholomew's, Smithfield, of like date. Of the secular buildings at Nevers two are specially worthy of notice. The first—the old Château Ducal, now the Palais de Justice—is a handsome building of mingled Gothic and Renaissance style, illustrating a transition between the two. While in the windows and wall surface horizontal lines prevail, there are six turrets and a high-pitched roof with dormer windows. It is probably of the sixteenth century. The external decoration is beautiful and chaste. Worthy of special notice is the coat of arms of the house of Cleves, here illustrated. Connected with the same house are the subjects of the bas-reliefs, three of which have reference to the chase of St. Hubert, and the rest to the legend of Helias, the knight of the Swan, the subject of Wagner's musical work "Lohengrin." The interior of the Palais de Justice contains a museum, in which the faïence or glazed pottery of Nevers is well represented.

Of the ancient ramparts of the town the Porte du Croux is the most interesting part that remains. It is a fine piece of military architecture dating from the end of the fourteenth century. It consists of three storeys, beneath which is a passage, where originally was the drawbridge; at the angles of the top storey are barbicans, connected by galleries.

From Nevers the Loire flows north-west, but Bourges may be reached by train or bicycle 50 miles due west, and the river regained at Gien, which lies about the same distance north of Bourges. Bourges ranks with Amiens, Rheims, Chartres, and Notre-Dame at Paris as one of the five finest Gothic cathedrals in France. Though to outward appearance it has no transepts and but poor western towers, it has the following distinguishing points of its own. It contains the best collection of old stained glass in France; it has double aisles throughout and double triforium and clerestory (one for the central nave and the other for the inner aisle); it has a façade of five portals, with a specially beautiful one in the centre (having a representation of "The Last Judgment" in the tympanum, as in the central portal of Notre-Dame at Paris); and the apsidal east end is externally of great delicacy. It also has an interesting Romanesque crypt and Romanesque inner portals on the north and south; the pillars of the nave are of exceptional height; there is a handsome choir-screen and a beautiful modern pulpit. Of the Romanesque period there remain (in addition to the crypt and portals) some parts of the chapel of Sainte-Solange. The choir is of the early thirteenth century, the western part of the nave about 1400, the large window and three central portals of the façade of the later fourteenth. To the fifteenth century belong most of the side chapels and the chapter-house, and to the sixteenth the north-west tower. The southern Romanesque portal has the representation of Christ and the symbols of the four Evangelists in the tympanum; in front of this is built a handsome Gothic porch of the late fourteenth century, the sides of which show in composition and execution a resemblance to the compartments formed by the supporting arches within the chapter-house at Lincoln. The interior of the cathedral consists in ground plan of five aisles (including the central) divided by four rows of pillars, and of side chapels in addition, and when one looks up one sees in the same glance three rows of windows and the double triforium, due to the three vaults rising one above the other. The effect is unique. There are points in which this cathedral must yield in turn to each of the other four; but, as already indicated, it has its own peculiar excellence: "there is but one Bourges." The collection of stained glass belongs both to the thirteenth and fifteenth centuries, and for each period ranks among the best in the country; but for the combination of the two Bourges has no equal, though Chartres disputes the supremacy for glass of the thirteenth century, and Auch and Troyes for that of the later period.

Halfway between Gien and Orleans, on the Loire, is the very interesting Romanesque church of St. Benoit-sur-Loire, belonging to an old abbey. The most striking feature about it is the square portico adjacent to the west front, formed by colonnades and vaulting and open at the sides, having probably supported a tower. This combination of porch and tower was not infrequent. An example of a detached tower, with open lower storeys of a later date, may be found at St. Michel's, in Bordeaux, and also at Evesham, in Worcestershire. The capitals to the columns are of the best Romanesque character, suggesting Byzantine influence and sculptured in the strongest relief. The rest of the exterior of the church is plain Romanesque. Apses abut the transept on the east side, and three semicircular chapels abut the main apse. The nave has lancet windows divided by shallow buttresses. There is a magnificently sculptured north doorway, now much mutilated and walled in. The interior is of great interest in respect of architectural development. The side aisles of the nave have stilted arches, in order to raise the vault sufficiently to admit the light from the wall windows, the pointed arch being not yet in use. The vaulting is of the barrel type, slightly pointed, being apparently in a transition stage from the round barrel to the vault ogival. The choir, transept and ambulatory have the plain barrel vault. The high altar rises from the choir by a gradual succession of terraces with mosaic pavements. The triforium of the choir consists of very small round arches on pilasters. The clerestory windows are round arched, with semi-detached shafts on each side. There are sculptured capitals of Byzantine type throughout the church. There is no regular triforium in the nave, but an arcading beneath the clerestory windows. The large apse is in three storeys: first, five small round arches on Romanesque columns, above this twelve slightly stilted and narrow arches on pedestals, and at the top five windows. This church should not be omitted by anyone touring in the neighbourhood. It lies some three miles from the nearest station—Benoit St. Aignan. Between St. Benoit and Orleans is the small Romanesque church of Germigny-des-Près, of the ninth century, said to be the smallest church in France. On the roof of the small eastern apse is a fine mosaic in glass of the tenth century.

Orleans is a handsome modern town, and makes a pretty view from the opposite side of the river. The cathedral stands out prominently all round the adjacent country. It is in the Flamboyant style of French Gothic, but was not commenced until 1601, being one of the few fine Gothic churches in Europe built since the Middle Ages. The old cathedral was destroyed by the Calvinists. The present building is remarkable for the richness of its decoration. The façade is an average and typical example of the French west front, and is divided horizontally into four stages. Three recessed porches, three rose windows, three arcadings and a pair of towers, themselves in three stages each; the vertical division is by buttresses with figures under canopies. The Musée de Peinture et Sculpture contains some interesting paintings of the abbey of St. Benoit-sur-Loire described above.

There is a large Flamboyant church at the village of Cléry, some ten miles further down the river. It illustrates the disuse of capitals to the pillars in this late period, the shafts being in continuous line from the floor to the spring of the roof. Flying buttresses connect strong detached buttresses with the wall all round the church. At Beaugency, further down, may be seen, in addition to an old donjon and a picturesque bridge over the Loire, the old church of Notre-Dame of the eleventh century, in style of the later or transition Romanesque. The pillars are short and thick, with large Romanesque bases and sculptured capitals, but the arches in the colonnade of the nave and in the triforium of the choir are slightly pointed. The church of St. Nicolas, at Blois, is of the twelfth and thirteenth centuries. The bays in the nave are divided by piers formed by four large pillars (of square abacuses) attached to a small central one; these support arches slightly pointed; the triforium is low and in five parts to each bay; the clerestory is large, and consists of two broad lancets, with a rose in the tympanum.

Passing over for this occasion the castles of Chambord Blois, Chaumont, Amboise and Chenonceaux, all of which are situated on or near the river, we come next to the cathedral of Tours. This has a commanding position, as may be seen by the general view of the town upon the river; it has also a handsome façade, spoiled by the cupola additions. The cathedral as a whole covers ground from the twelfth to the sixteenth centuries. The façade, with its two towers terminating in octagonal lanterns, is of late date, and has details verging on the style of the Renaissance. The windows, gables and other embellishments must be assigned to the latter part of the fifteenth century.

Passing by the château of Azay le Rideau, Langeais, and the picturesque island situation of Saumur, we must hasten on to Angers, where we find a cathedral which suggests a few remarks upon the importance which has been credited to the provinces of Anjou and Le Mans in the development of ecclesiastical architecture. The idea of the cupola as an alternative method of roofing to the flat ceiling came from the East; but the French claim to have given a development to this method, which resulted eventually in the use of cross-vaulting. In the church of St. Front,* at Périgueux (of square plan), the cupolas were mounted upon pendentives; other churches were built in Aquitaine in the same style, and the principle was extended to churches of rectangular plan with transept, but with no side aisles. The cathedral of Angoulême is the best example of this kind of church, three large cupolas being used for the roofing of the nave, in addition to that over the intersection of nave and transept. It is to the provinces of Anjou and Le Maine, with the adjacent province of Poitou, that the credit is given of substituting for the cupola the intersecting arches, springing like the pendentives from the four angular points of a square. This is illustrated in the nave of the cathedral of Angers; there is the same plan in three squares as at Angoulême, but the intersecting arch placed diagonally in place of the cupola; there are no side aisles, but the nave itself is broad. In the nave of the church of Holy Trinity two arches parallel to the sides of the square and intersecting at right angles contribute to the support of the diagonal arches. From these beginnings would seem to have been developed the finer and more elaborate vaulting systems employed in the big cathedrals of the north. Laon, Paris, Le Mans, Chartres, Amiens in graduated series improved upon the beginnings of Anjou, until in time the height of the choir at Beauvais passed all reasonable limits. The vaulting of the nave at Angers dates then from the middle of the twelfth century, the choir at the end of the same, and the transept at the beginning of the thirteenth. At the west end is a handsome portal and towers of the end of the twelfth century; in the tympanum of the former is sculptured the figure of Christ with the four symbols of the Evangelists (the man, the lion, the ox and the eagle), as in the south portal at Bourges, the west central portal at Chartres, the south porch at Le Mans, and many smaller churches. The cathedral contains some very good stained glass of the twelfth and thirteenth centuries.

From Angers we reach the mouth of the Loire at Nantes, the cathedral of which is not, like that of Angers, of special interest. It has a Romanesque crypt, but the nave was reconstructed in the fifteenth century, and the rest is quite modern. The nave has a handsome triforium; the façade has three portals and two symmetrical towers, with gable between. There are, however, within the cathedral two monuments of surpassing merit. In the south arm of the transept is that to Francis II., Duke of Brittany, a masterpiece of the Renaissance, sculptured by Michel Colomb in 1507. At the four angles are statues of Justice, Force, Temperance and Prudence. In the niches at the sides are small statues, viz. of the Twelve Apostles, St. Francis of Assisi, St. Marguerite, Charlemagne and St. Louis. In the north arm is a modern monument, the tomb of the General de Lamoricière, sculptured by Paul Dubois. The four statues at the angles are in bronze, and represent Military Valour, Charity, History and Faith.

In returning to Paris one should stop at Châteaubriant and at Le Mans—at the former for a glimpse of the remains of the old château, a donjon and a Romanesque cloister walk; also some parts of the newer sixteenth-century castle, now used as a barracks. At Le Mans we shall find a cathedral which in grandeur and beauty may rank sixth in France, and in architectural interest perhaps higher. There are also the old churches of Notre-Dame de la Couture and Notre-Dame des Prés. The façade of the former is in the main a graceful piece of thirteenth-century work, with its handsome portal, containing good sculpture in the receding orders and in the tympanum of the doorway, also a graceful arcading and gabled buttresses. The right and left wings up to the top of the third stages of the towers are alike, but the thirteenth-century windows of the south tower are wanting in the north, and the two were left thus unfinished until at a later period a couple of extinguishers graced (*sic*) their tops. The large window in the centre is an addition of the fourteenth century. The church has no side aisles but a wide nave, on the inner walls of which are very wide pointed arches, surmounted by a clerestory of two round-arched windows to each bay and round openings in the tympanum. The choir in its lower stage has round-arched stilted arches and heavy pillars of very early date, but the upper portion is fourteenth-century work.

The cathedral at Le Mans divides itself into two distinct parts as regards architectural style; in the west part, *i.e.* nave and its appendages, the Romanesque character prevails, while the choir is a magnificent example of pure thirteenth-century work. These two are divided by a transept, which in its lower parts is of the twelfth century, but in its higher parts of fully-developed Gothic. In the north arm of the transept is a magnificent rose window; over the south arm is a tower of fifteenth to sixteenth century. The nave consists of five large bays, each comprising a double arch in the ground storey, seven small arches in the triforium and two round-headed windows in the clerestory. There is one pair of aisles, low and with groined roof without ribs. A plain arcading runs along the walls. The whole of the large window in the north arm of the transept (of which the upper part is a rose) is filled with most beautiful stained glass. The effect of the sudden view of this to one entering by the south transept when the sun's rays are playing upon the northern window is not likely to be forgotten. The choir is remarkable for the exceptional arrangement of its flying buttresses in order to leave free the windows of the double ambulatory and of the apsidal chapels. In plan they take the form of the letter Y There is a triforium in the choir between the two aisles, but not over the front arches, thus giving a double clerestory light to each bay of the choir, of which there are three on each side, in addition to the seven arches forming the apse, composed of large cylindrical columns surmounted by stilted arches The piers dividing the bays of the choir consist of central columns with engaged shafts. The triforium (above) has two compartments of three arches to each bay; the tracery varies. Brilliant stained glass, in which red and blue tints predominate, pervades the whole. After leaving Le Mans, Chartres would be passed on the way to Paris, but would be better taken in conjunction with Rheims, Amiens and Notre-Dame of Paris.

ST. GODRIC'S PRIORY.

THE members of the Durham City Field and Research Club had the first excursion of the season on the 15th inst., when Finchale was visited. The Priory and its magnificent surroundings are an ideal picnicing rendezvous, and during the summer season attract crowds of visitors from all parts. The natural beauties of the place, says the *Durham Advertiser*, are in themselves magnificent, but the story of the Priory and of St. Godric's Garth add a flavour to the visit. The members of the club, with the Rev. W. Brown, of St. Cuthbert's Roman Catholic church, Old Elvet, as cicerone, were highly fortunate in their visit. A bright afternoon favoured the excursionists, who after a delightful drive dismounted near to St. Godric's Garth, which is situated by the riverside about half a mile south of Finchale Priory. The traces of the hermitage here consist of the ruined walls of a small building, which the excursionists reached after scrambling through a wealth of brushwood from the hill above. Mounting a small eminence, Father Brown here gave an interesting narrative, the first portion of the story of St. Godric. He reminded the club that many marvellous things are recorded of St. Godric. He was a Norfolk man, a hawker by trade, who seemed to have made a very good thing out of it, because after a time he became part owner of a trading vessel plying between some port of Norfolk and Scotland, and even got as far as Flanders, which was very adventurous in those days. He seemed to have been an open, straightforward, honest man, and conscientiously uncomfortable about the business ways of his people and partners, and he determined after a while to give up. He entered the service of a gentleman in Norfolk as steward, and there also found the domestics very much given to stealing, quarrelling and other things which hurt his conscience, and he gave that up too. He made up his mind to devote himself to a religious life, and first of all went on two pilgrimages to the Holy Land and twice to Rome. He after a while found a hermit living somewhere at Wolsingham, and put up with him for a time, and eventually resolved to adopt a similar life somewhere near Durham and to qualify himself by prayer. His first task was to commit the Psalms to memory, and then he went to school in Durham and sat amongst the little boys and girls in a school attached to St. Mary-le-Bow. He got permission afterwards from Bishop Flambard, of Durham, to lead a hermit's life on some of the episcopal estates, and after serving as sacristan, bellringer and general man at St. Giles's Church, he hit upon the site on which they now stood. His friends implored him not to venture so far afield in these uninhabited forests amongst the wild beasts, snakes and wild swine, for in those days the place was looked upon with dread, and regarded as a land peopled with devils or some horrible creatures of that sort. Godric built himself a little cottage there and enclosed a garden, the outline of which they saw represented by the remaining walls. His precincts were invaded by a big flood, and he determined to go further away to higher ground, and after a good deal of adventure he got ground round the head of the river, where the Priory now stands, and established a second hermitage on the site of the present south transept. There he lived until 1170, when he died on the morning of May 21. He was an invalid, unable to help himself during the last eight years of his life, and two of the monks from Durham were sent out to look after him. One of them, the Monk Reginald, was what Boswell was to the great Dr. Johnson, for he put down everything that he could find out about St. Godric, and the result was that they had a considerable volume published by the Surtees Society containing the most amazing sayings anyone came across. St. Godric built in the second hermitage a little chapel and a living room, together with a dormitory, where he could put up folks who came visiting. In his last moments he was carried into this chapel, and died with his head on the steps of the little altar. Those steps or something very like them still remain. When the Priory was built the whole of St. Godric's cottage and chapel was done away with except the altar steps, which were left untouched. Father Brown proceeded to speak then of the establishment of the monastery, the ruins of which were next to be visited. It was begun in 1241, and about 1266 the south transept, which was the last portion built, was finished. In 1536 the monks were put out, and the last prior was William Bennett, who was made a prebend of the seventh stall of Durham Cathedral, when the canons were first introduced instead of monks. The rents of Finchale went to support the stall. Wm. Bennett afterwards became rector of Kelloe and then of the richer Aycliffe, where he died. Father Brown proceeded to speak of the stripping of the monastery of furnishings and lead, and of its general decay up to the time when the Godric Society cleared out the whole place and brought to light many things previously unknown. Meanwhile great destruction had been wrought by the opening of Framwellgate Moor Colliery. He had been told it was a fact that when the colliery wanted to erect a few cottages for the miners they just sent their carts to take what they wanted from the monastery to build with. That had been going on almost to the present time, because he had seen people carrying off carved stones to put up rockeries. His belief was that the right way to Finchale from Durham was by the riverside.

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* The present church is a rebuilding of the old one.

The party then walked to the Priory; *en route* they were shown the site of the fish ponds. Here the monks stocked fish taken out of the river, and netted them as required. Reaching the Priory, Father Brown drew attention to some curious architectural features. The monastery served, he said, the double purpose of religious services and what we might call a workhouse. It was one of many places of hospitality, and these were taken advantage of by persons of position to such an extent as to lead to the impoverishment of the house, interfere with the discipline and give rise to dissipation in the house, and earned for them a character which the true members did not deserve. They found provision for all these. There was the church which was the centre of the whole concern, the domestic department, the big hall for dining and a suite of apartments, and a small orchard stood to the south of the prior's hall. Those who had to look after the religious services were nine in number. The prior was superior of the monastery, and four others of them belonged to the place, and were tied to them. Other four came out from Durham. In the year 1408 the Prior of Durham withdrew certain relaxations which had been allowed to the monks at certain times, and substituted for them little outings to Finchale, which lasted a month. Four of the monks came out from Durham at a time, so that there were nine in residence at all times. Of these four, two took duty one day and two the next, and so on alternately, those off duty being allowed to take their outings, over which, however, there were very strict regulations. Besides these nine choir brethren there were a number of lay brethren, who did the domestic work and had a multiplicity of duties to perform.

The party then entered the Priory ruins, and under the guidance of Father Brown inspected its many interesting features above and below ground. The beauty of several of the long narrow windows was noted, and of the four massive round pillars above which the great central tower was built. There was a way up in the hall by a spiral staircase. This staircase had been within recent times built up, because people used to run up and push stones off. Evidence was indicated of the Lumleys having had something to do with the putting up of the altar and screen, inasmuch as the cinquefoil emblem of the family was found on the stonework. In the south transept the party looked down upon what was said to be the altar step on which St. Godric's head rested in death. In 1836 a skeleton was found below of a very big strong man, but it could not have been that of St. Godric, who was a little man. It might have been that of Henry de Puteaco, the founder of this place, because he was known to have been buried in St. Godric's chapel, close to the chamber of the hermit. An interesting account of life and work within the monastery was given as the party was taken step by step over the site of the monks' and laymen's quarters, and Father Brown marshalled his facts in interesting detail. A drain entrance was investigated, and led to the inquiry by one member as to the whereabouts of the entrance to the subterranean passage which connected the monastery with Durham Cathedral. Father Brown, in reply, promptly dispelled a popular delusion, for he said there never was such a passage, and that what was said to be such was an old drain. The object of one massively built chamber underground presents a puzzle to the investigator, and Father Brown confessed that he himself did not know for what it could have been used. Certainly it was not a kitchen, as there was no fireplace. A member thereupon submitted a simple-sounding solution. He suggested that it was the place where the beer casks were kept. The recreation-room, a gloomy cavernous chamber below the level of the ground, was visited, and the fine arch work supports and springers were greatly admired. The prevalent space allowed, it was stated, was 23 feet. Nearly everything was about 23 feet. Altogether a very complete and interesting description was given by the genial author of Finchale Priory and the life of St. Godric.

SCUOLA DI SAN ROCCO, VENICE.

ACCORDING to the *Gazzetta degli Artisti* there is an intention to "restore" the famous series of pictures by Tintoretto in the Scuola di San Rocco, and the project is being discussed, attacked and defended with the passion that is frequently imported into these questions in Italy. A meeting of artists and critics has been held under the presidency of Signor Molmenti, the well-known writer on art, and after an examination of the present state of the pictures it was there decided, on the initiative of Signor Bressanin, painter, and Professor Cantalamessa, director of the gallery of the Accademia, that it was desirable to reline and carefully to restore and to revarnish the pictures, the meeting pledging itself that such restoration should be of a conservative character. The report of these proceedings is followed by a letter, signed by Dr. Frattin, who bears the title of "Guardian Grande" of the confraternity of San Rocco, pointing out what the confraternity has already done and what are the difficulties in the way of the course proposed. To this the *Gazzetta* adds a somewhat angry reply, committing itself definitely to the view of the artists, that the pictures—which have certainly darkened very greatly with time—should be restored. It is, of course, difficult for anyone not on the spot to pronounce an opinion as to whether the hazardous course proposed should be undertaken, but that it is hazardous there can be no manner of doubt. These very large pictures, some fifty in number, are among the most precious in the world, and their preservation interests not Venice only, but the educated world at large. We can only beg the authorities at Venice to proceed with the greatest caution, and to rid themselves altogether of that party feeling in the matter which, the *Gazzetta* declares, is warmly asserting itself. Dr. Frattin makes one suggestion that commends itself to common sense; it is that the authorities should wait until the pictures have been examined by Professor Cavenaghi of Milan, a practical picture restorer who, by the common consent of experts all over the world, has a better understanding of the way to treat Italian pictures than any other Italian. It would probably be well to abide by Signor Cavenaghi's opinion, and to leave it to him to say whether the cleaning of these masterpieces could be safely undertaken.

NOTES AND COMMENTS.

SOME time ago we announced that M. POILPOT, the painter, had obtained an important commission from the French Government for the decoration of a part of the Sorbonne in Paris, especially for the vestibules of the Faculties of Literature and Sciences. The panels are to depict the history of architecture from the time when the temples of Philæ were erected down to the reign of LOUIS XV. In modern times no such respect has been shown elsewhere for architecture as a subject for decoration, and in no building can the representations be more appropriate than in the Sorbonne, which, as the survival of the ancient schools of Paris, unites, as it were, all ages and their various branches of scholarship in its halls. The artist is now well advanced with his work, and the paintings he has completed are considered so satisfactory, a new commission has been given to him to paint a view of the Place de la Concorde showing the buildings designed by GABRIEL, the architect, as well as a general view of Venice. It will be long before a similar series of paintings will be seen in an English public building.

IT would be an advantage if the practice adopted by the committee who have arranged the exhibition of DAUMIER's works at the Ecole des Beaux-Arts, Paris, were to be imitated when occasion offers. DAUMIER was one of the most fertile of caricaturists, and it would not be easy to determine whether he was the creator or representative of public opinion in Paris during many years. His productivity was amazing, and although the kind of art he practised is supposed to lose its interest in a very few years, people now seem as eager to study politics in the lithographs of DAUMIER as were their grandfathers when the plates were first published in the *Charivari*. In all such cases a selection, however carefully guided, can only give a partial aspect of the artist's power, and reports easily get abroad about the superior merit of the works which have been excluded. To meet the difficulty in DAUMIER's case, it has been arranged to change the plates every week. There are many exhibitions held in London in which a similar course is desirable. We act on the principle that a comparatively few examples will excite curiosity and compel people to study them in their entirety. But few have the time or opportunity for such a task, and it would be preferable to follow the French plan and enjoy a new pleasure every week.

M. PASCAL, the French architect, is now engaged in directing the works for the erection of the substructure for the colossal group of sculpture by M. BARRIAS which is to be the memorial of VICTOR HUGO in the "Place" which bears the name of the poet in the western part of Paris. The whole of the bronze figures have been cast, but they have to be freed from the signs of that operation and afterwards to be fitted together, so that they may present the appearance of one casting rather than of several. The district in which the memorial will be seen is suburban, but it must have interest for the poet's admirers from his residence in it after his return from exile in the Channel Islands. There will be another memorial of VICTOR HUGO in the Panthéon. His bust is to be seen in the Théâtre Français, and probably one or more statues may hereafter be erected in Paris.

ON April 29, 1900, it will be remembered, a bridge or *passerelle* leading to an immense celestial globe, which was one of the supplementary shows of the Paris Exhibition, gave way. Eight people among those who were in the road below were killed, and as many more were injured. As is usual in Paris, the accident was at first attributed to the neglect or incompetence of the Government, and especially to that of M. MILLERAND, the Minister of Commerce. Then the responsibility was cast on the authorities of the Exhibition. It was ascertained, however, that the celestial globe did not come under the tests which were applied to the Exhibition buildings, and, in fact, it was as independent a venture as if it were erected in Montmartre. After a long inquiry and the examination of numerous specialists, it was declared that the cause of the accident was the feebleness of the piers, which were too thin and were placed in positions where they could be injured by passing carriages; secondly, that the arches introduced for the support of the structure were insufficient; and thirdly, that oblique strains arose for which there was no provision. It was held that the responsibility rested with M. GALLERAND, an architect who had obtained the concession, and M. MATRAI, who represented a company whose specialty was construction in concrete which was strengthened by means of iron. M. GALLERAND said he entrusted the work to M. TEDESCO, and disclaimed all liability. M. TEDESCO said he gave advice, not orders; while M. MATRAI said he only supplied projects, not plans, which should be the work of the engineers and architects who employed the system. In other words, the bridge itself was responsible for its downfall. After hearing the evidence on two occasions the Tribunal Correctionnel has postponed giving a decision for a fortnight.

GROUND is so valuable in the City, it can hardly be expected that the streets should be widened or straightened in a hurry, or that the operations should be on a grand scale. The last report of the Corporation Engineer suggests that in spite of every difficulty a very large amount of work has been undertaken for the improvement of the streets. Some idea of the magnitude of the improvement business carried out by the improvements and finance committee may be gathered from the fact that claims amounting in the aggregate to about 405,000*l.* have been negotiated during the past year. The sum these claims were settled for was about 288,200*l.* At the end of the year claims to the extent of 142,000*l.* were under consideration. Improvements have been undertaken in Cheapside, Upper and Lower Thames Streets, Fleet Street, London Wall, Bishopsgate Street Within, Fetter Lane, Fenchurch Street, &c. In addition to the care taken to improve the streets above ground, the Corporation is not indifferent to the advantages of subways, not only for the use of pedestrians in crowded thoroughfares, but for gas, water and other pipes. It may not be generally known that beneath the City streets now under the control of the Corporation there existed, at the end of last year, about 2,540 lineal yards (or about 1½ mile) of subways. The lengths of gas, water and hydraulic mains, telegraph and pneumatic tubes and electric lighting conduits laid in these subways amount to 8½ miles. The electric light and telegraph conduits contain some hundreds of miles of wires and cables. The usefulness of the Corporation subways is evidenced by the fact that in the streets beneath which they have been constructed no openings have been made for access to pipes, &c., excepting those for taking pipes into the ends of the subways, since they were constructed.

THE new Slade Professor of Fine Art at Cambridge, Sir WILLIAM MARTIN CONWAY, has been known for the last fifteen years as a writer or artist, as well as a climber of mountains and a traveller in distant regions. He is the son of the Rev. Canon CONWAY, whose face was familiar to many who lived in Westminster or the Strand. Sir WILLIAM CONWAY, who was born in 1856, began his career as a University Extension lecturer, then he was appointed as the first Professor of Art in University College, Liverpool. Among his books are "The Artistic Development of Reynolds and Gainsborough," "Early Flemish Artists," "Literary Remains of Albrecht Dürer," "Dawn of Art in the Ancient World." The salary attached to the professorship is 340*l.* Not less than twelve lectures on the history and theory and practice of the fine arts are to be delivered each year. The University students are to have free admission to the lectures. At the end of three years Sir W. M. CONWAY will be eligible for re-election.

ILLUSTRATIONS.

VERSAILLES.

CATHEDRAL SERIES.—YORK MINSTER: WEST END OF SOUTH NAVE AISLE.

ST. MICHAEL'S CHURCH, BOURNEMOUTH, PROPOSED TOWER.

NO. 51 HARLEY STREET, W.

THE RISE AND DEVELOPMENT OF EGYPTIAN ART.*

WHEN a summary of what was known on early art in Egypt was read by me here eight years ago, I had to say that not a single sculpture was dated before the Fourth Dynasty and that the rise and course of this art were still buried. But every year since then has yielded some portion of the early art, until now we can trace it from the very beginning.

Our first view of any civilisation in Egypt starts with the beginning of cultivable land on the first deposits of Nile soil, about 7000 B.C. Before that Egypt was only a rocky gorge frequented by wild animals and palæolithic hunters. The oldest graves that are known are of a settled pastoral people, and show that pottery and small quantities of copper were already possessed by the rude inhabitants. But this civilisation rapidly developed in the fertile valley of the Nile, and the first steps of art are seen in the white clay paintings on the red pottery vases. These paintings are usually figures of goats, but some are known of hippopotami and human figures. This style of pottery painting disappeared in the early part of the prehistoric age, only being found in the first tenth of the known graves.

The carving of slate palettes in animal forms begins at its best in almost the earliest graves, and underwent continual degradation through the whole prehistoric period. The best work on slate was that of the incised outlines, such as the fine elephant which belongs to the first fifth of prehistoric times. Note how the creasing of the thick skin, the lank mass of the hind leg and the lean forward of the beast were all felt and expressed by the artist.

The favourite scope for animal figures was in the ivory and bone carvings on the heads of combs. These belong almost entirely to the first third of this age. They are, however, but rudely treated, and no fine or spirited work is found among them. The usual subject was a bird, but there is occasionally the figure of a quadruped. One of the latest, about half through the prehistoric, and certainly the most important, is the bust of a man, which shows the type of these people: the forehead high, beard pointed, and general type closely like the Libyo-Amorite. The same type is seen in the other figures carved in the round, in alabaster, slate and ivory. The general low level of the figure-work among these people co-existed with a very fine taste and skill in purely mechanical outline, as seen in the pottery and stone vases.

Of the later part of the prehistoric age, many examples of drawing remain on the painted pottery, and of the same style, but more varied, are the paintings on a tomb. This ship with cabins on it is much like those shown commonly on the pottery. The articles being stowed on the tops of the cabins show that they were solidly built. The propelling power is, by the vase paintings, seen to have been a long single bank of oars, as many as fifty or sixty being represented. As regards treatment the figures of women above the ship are doubtless intended to be on the opposite side of the creek, raising their arms with the familiar Egyptian wail at the departure of relatives; this may very probably refer to the voyage of the dead, parallel to the farewell scenes on Greek tombstones. Other scenes show the wild animals and hunters, the circular trap for catching the feet of the game, with five deer standing around it, and the hunter cutting up his prey.

Another long line shows the combats of two different peoples—one black, the other red. One black man has taken three captives and is attacked by two red men. In one single combat an adversary is killed, in another he has fallen on one knee and has taken off his skin cloak to serve as a shield, three women in long white gowns sit by watching the fight. In all of these we see a falling off from the best work, such as that of the elephant just noticed, and this accords with the general fact that the prehistoric civilisation was decadent before the incoming of the dynastic race.

There is a strong contrast between the prehistoric and the dynastic art. The former was, at its best, far inferior to the rough work of the later people, while in mechanical ability the later people show no marked improvement, and in some respects—such as flint-work—they never reached the prehistoric level.

The earliest work that may be assigned to the dynastic race is the first statue of the god Min from Koptos, made rather before B.C. 5000. The figure is of the rudest, a long block with legs and arms marked by grooving; yet on the side of it, roughly hammered on the surface, is an excellent head of a stag and two pteroceras shells. On another statue of Min which is more elaborated there are several carvings, of which the hyæna chasing a calf is the best, showing a good sense of expression and character.

At Koptos were also found pieces of pottery, figures in the round, which explain how the Egyptians attained at once such a fine style in sculpture when they adopted working in stone. The pottery is only of coarse clay, black inside, but a fine face of hæmatite was burnished on the surface, which gave a high finish to the work. Only fragments were found at Koptos, such as the torso shown; but a noble figure of a lion comes from Hierakonpolis.

From the same site comes our next half-dozen examples of the art shortly before the First Dynasty. A great mass of ivory figures have shown what abundance of such work there was in this age, and how complete a mastery of carving had been attained. Beside the good proportions of the figures, we see in the carving of the heads real portraiture, as true to a type as any of later time. The characteristic form and expression of this head belongs to a fair race, and is identical with the Libyo-Amorite type, like the earlier head of prehistoric work. Hence we may accept this as the best portrait of the prehistoric race. The mixture of a negro element with the Libyan is well shown in another head carved in limestone. I was struck by seeing the exact living type in a train; and, on listening, found it was an American, doubtless from the Southern States, negro-European in source. In all this work, though traces of archaic style cling to it, yet the power of expression is of the best, as showing character and race.

A rougher kind of work appears in the little glazed pottery figures of animals of the same period, which are interesting as showing the freedom of using glazes at so early a date. Glazed beads are, indeed, found very early in prehistoric times, but larger objects of glazed quartz and glazed pottery seem to come into use under the earliest kings. Glazed tiles were also made at that time for wall decoration, and continued into the Third Dynasty.

The fine work in hard stones seems to have come to a climax under these earliest kings, as nothing has exceeded in size and work the great syenite bowl from Hierakonpolis. The next in size (in the British Museum) is of the age of Mena, as shown by the material. The grandest point of such work may then be put to a little before the First Dynasty, or about 4800 B.C.

We now come to the most important of early monuments, the carved slate palettes. And since the discovery of that of Narmer, which is now fixed by his tomb as being just before Mena, we may date all such carving to the pre-Menite kings.

The only slate with entirely animal figures was found at Hierakonpolis. It has great interest zoologically, as showing several animals now extinct in Egypt; and it has probably an historical meaning, as representing tribes by their own emblems. But here we are only concerned with it as a monument of the art of this time. The symmetric pair of leopards which frame the scenes show that such decoration was already in use, as we shall also see on other slates. Hence the Mycenæan examples were but following in a far older course. The work is of the same stamp as other examples that we have noticed, somewhat archaic but full of vitality and character. I here notice this first as being without human figures, but it seems from its style to be later than most of the others, and probably about the age of king Narmer.

Perhaps the earliest of such work is the fragment with the bull trampling on an enemy. The wiry style of the hair and muscles is striking, and such dies out altogether in what we know to be later work. The lion in a town enclosure on the reverse has much the same character of energetic expression in the work.

The meaning of this is cleared by a piece of another slate, which shows several towns with their emblems in them, attacked by different tribes symbolised by animals, striking picks into the walls. This is clearly a record of conquest, and so far as we can get clues to the town names in later time it represents the subjugation of Middle Egypt by the allied tribes of Upper Egypt. The reverse shows rows of animals and trees, which have much the same character as the fragment with the bull, and are not far removed from the age of that. The tendency to exaggeration of the muscles in order to give force is what we know so well in Assyrian work or sixteenth-century Italian. It was a convention which the Egyptian rapidly grew out of, and by the Second Dynasty no trace of it is left. The resemblance of the treatment of the trees to those on Mycenæan work in a latter age is curious.

One of the largest slates shows a long procession of warriors bearing different weapons. The style is more flat and cheap in effect, grooved lines being freely used. The scenes have not that directness and unity that we see in the other examples; and altogether though full of interest in the subjects it is the poorest of all in the art. The reverse of it is flat.

Pieces that belong to one of the finest slates make us greatly regret that no more of it is known. One side shows a beautiful group of two young giraffes and a palm tree. In the sense of artistic grace and design this is the finest piece of such work that is known. The other side shows a scene of subjugation; captives are being grasped by the standards of different towns or tribes, or driven forward by a conqueror clad in a long-fringed robe; while the slain are being eaten by lions and vultures. The types of the captives are not like any portraits of Egyptian races, and this refers therefore to conquest outside of the lower valley of the Nile, and belongs probably to the latter part of the series of slates. The treatment of the lion's hair is that seen on ivory carvings of lions of the beginning of the First Dynasty, and this again links it to the close of the pre-Menites. Possibly the king's name might be recovered if we ever find the top of the slate.

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* A paper read by Professor W. M. Flinders Petrie, D.C.L., before the Applied Art Section of the Society of Arts on May 21.

A later style seems to be presented by the only slate which we can positively place historically, that of king Narmer, who was probably two reigns before Mena. The greater amount of accurate anatomical detail without exaggeration, and the use of some hieroglyphs point to this as the latest of the series. In this we see the conventional group of king and captive already established in the same form which lasted for 5,000 years down to the Roman dominion. The attitudes of the other figures are already in the future conventions. And the permanent system is established, although it took a century more, to the time of Zer, to crystallise the style of the art. The reverse shows that the united forces of Egypt were composed of three very different races—the long-haired, the bearded and the usual shaven Egyptian of later time. The triumph they celebrate is over a bearded people, who wore bulls' skins and horns on the head. The taste for symmetrical pairs of animals is fully carried out in the main group below. This series of slate palettes is the finest material to show the rise of the art, and no research should be spared which could bring more to light or complete those which we know.

The style of work on different material varies much in each reign, and the name of Narmer on an alabaster vase shows less finished work than on the slate, but of the same style.

Of the time of Mena, or just before that, are some small figures of captives incised on ivory; two of them bear vases, probably of stone, and these are subject people, who probably became incorporated with the Egyptians in later times; a figure of a captive with arms bound has a feather in the hair, like the figures of Tahennu or Libyans in other sculptures, and is probably, therefore, of that race; another figure, clad in a long, spotted robe, like that worn by the conquerors on the giraffe slate, bows forward with a branch as an emblem of peace. In these figures we see again how varied were the people with whom the Egyptians were in contact in this early age.

Of the small work of this time there is a charming example in the ivory toilet dish of the form of a duck; the two halves are linked together by a loop at the tail, and they must have been cut out of one block. This was found containing green eye-paint in a private tomb of the age of Mena.

Several ebony tablets of Mena have been found at Abydos, and one that is perfect may serve to show the style of hieroglyphs then. It is of small size, and cut in wood, which accounts for the roughness of it; but it shows a considerable solidification of style compared with even the best work of Narmer. It gives the earliest writing that we can call a continuous inscription, all the signs before that being used singly as labels to figures or scenes.

Of this age also is a small ivory figure, which differs in attitude and dress from all the other ivories known. And figures of a lion and dog found in Mena's tomb show that the animals were carefully studied in the round as well as on the slate carvings. The archaic heaviness of this lion should be contrasted with the more advanced work of the lion in the next reign of king Zer. These animal figures were used as playing-pieces in a game; the bases are much worn with rubbing and the lines of hair on the sides are worn away by the royal fingers just at the centre of gravity where they were lifted. In both of these there is still archaic style, especially in the front view of the smaller lion. The treatment of the hair is exactly the same as on the later slate palettes.

The outline work attained its full growth in this reign, as seen on some of the ivory vases. The figure of a hawk is practically the same as in any later period, the style is complete and no trace remains of the archaism of the previous reign. The fragment of a bull's head on another ivory vase shows that carving in relief was not quite so far advanced.

The main examples of decoration and technical work of this time are the bracelets of the queen, found so unexpectedly this spring upon her arm. The band of hawks in alternate turquoise and gold is a record of the culmination of the art. The history of this bracelet is that the turquoise hawks were first worn alternating with large ball beads, as shown by the wear on the edges; later on the hawks in gold were made to be threaded with them and numbered in graded order, with straight strokes on the bases of one half and slanting strokes on the other half of the pieces; lastly, four turquoise and five gold were lost. There are similar pieces of lapis lazuli and of ivory, also found in the tomb. Now it will be seen that the hawks on the turquoise are of the thick style of Mena, with nearly horizontal bodies, whereas the hawks on the gold are of the completed style of Zer. The former were made early in his reign and the latter toward the close of the fifty-seven years that were credited to him in the lists. This bracelet, therefore, just embodies the changes of that critical point in the history of the art; a change as rapid and decisive as the change in Greek art from the pre-Persian to the Phidian sculpture. The technical work shows perfect soldering and fine drilling in the terminal pieces, and the gold hawks on façades are all cast and worked over by chisel and burnishing.

The bracelet with the gold rosette has the sides, that join the front and back groups, made of a triple plait of gold wire and thick hair. The latter is probably the tail hair of oxen, and was used for threading all the bracelets. The work of soldering is perfect; the groups of three hollow gold balls are joined without showing a trace of the process; and the only evidence of solder is in the hollow gold button for the fastening, which has a shank of gold wire fastened into the inside of it with firm metallic union, proving that solder must have been used. But in no case could any trace of excess or difference of colour be detected with a magnifier.

The bracelet with hour-glass beads of gold and amethyst is quite new to us in design, and no source is known for such a strange form. The threading is done by having a groove around the middle of each hour-glass, passing a thread on each side of it and binding them together with fine gold wire.

The bracelet with spiral beads is formed of gold, turquoise and purple lapis lazuli, which is carved in imitation of the spirals of gold wire. In the latter the wire is tapered to each end and then coiled. The gold is very pure, as it is quite soft and unelastic, reminding us of the gold which the Indian prince purified "until it was like wax." The lazuli of this colour is unknown in later work in Egypt. Other bracelets were cut out of ivory and decorated with geometrical patterns which have a curiously modern look.

On coming to the next reign—that of king Zer, the third of the dynasty—the incised carving is seen to have been fully carried out on the stone bowls. The cutting is as flowing on this hard metamorphic slate as on the soft ivory.

The richness of the dynasty seems to have culminated under the fifth king, Den; he was the first king who used stone in his tomb, and he grandly paved the whole of it with slabs of pink and grey granite, a labour no other king attempted to copy for centuries afterwards. He first had a pictorial royal seal showing his herculean labours in wrestling with the hippopotamus, and hooking the crocodile by its jaws. And the only relief inscription on a vase belongs to him, a splendidly cut panel on a large alabaster jar. He was distinctly the magnifico of that age; the work less severe and noble than that of Zer, but more showy and sumptuous.

Throughout the earlier part of the dynasty there was a standard decoration for the legs of stools or other furniture, of carving them in the conventionalised form of bulls' legs. This pattern descended from prehistoric graves, as it is found on a large scale in wood, at about four-fifths through the prehistoric age. The work of these bulls' legs is remarkable for the highly conventional decoration of the vein lines, and it might be mistaken for cinque-cento design rather than credited to the beginning of history.

Lastly, we see here the earliest statue that is yet known, belonging to the middle of the Second Dynasty, or about 4350 B.C. It is obviously a long way from the archaic style, and we have yet to find a long series of sculpture to lead up to this. The head is highly finished, and more natural in the form of the eye and mouth than any of the crowd of royal statues which filled the succeeding ages.

It is to the temple site of Abydos that we must look for the carvings on slate, and perhaps the royal statues which will more completely fill our view of the rise of art. And it is that site to which I hope to give the next three years of work in Egypt.

THE PALACE OF KNOSSOS.

THE following important communication by Mr. Arthur J. Evans dealing with fresh discoveries at Knossos has appeared in the *Times*:—

Thanks to the liberal contributions received from the Cretan Exploration Fund, it has been possible for me to resume the excavation of the great prehistoric building of Knossos—the true "labyrinth" of ancient tradition—on an adequate scale. The season's work is now so far advanced that a short summary of the results—in many respects not inferior to last year's discoveries—may be of general interest. It is now evident that the palace is of even vaster extent than could have been foreseen from the long lines of outer walls already brought to light. The great entrance court takes an almost unlimited extension to the west. It must have been at once a palace court and the Agora of the "broad" Homeric Knossos. The lofty porch with its twin portals within, the ground-plan of which was already cleared last year, also served a double purpose. The doorway to the left leading direct to the corridor beyond with its processional frescoes was a real entrance. That to the right, communicating with a single room, may well have been reserved for royal use, and it is natural to imagine the king here seated at the gate in the Oriental fashion and giving judgment before the assembled people in the Agora beyond.

The base and foundations of the west wall of the palace were found to continue northward, taking finally a double turn eastwards in two sharp finely preserved angles. The foundations themselves are on this side composed of small blocks—apparently unique in structure—and inner lines of the same construction, which [support part of the north-western area of the building, attain the surprising depth of 23 feet. The outer wall, after its turn eastward, takes a further and quite unexpected turn to the north, enclosing a distinct quarter of the palace grouped round a small paved piazza with an inner portico of its own. This piazza, already partly excavated last year, was found to give access on the west to a spacious bath or tank, lined with fine gypsum slabs nearly 7 feet in height and approached by a double flight of steps flanked by a breastwork and columns, of which the bases only remained. This basin is analogous, but on a larger scale, to that already found in the room of the throne, and another smaller has since come to light in the south-eastern quarter of the site. Two similar basins have now been found by the Italian explorers in the prehistoric palace at Phæstos, and these baths or tanks must therefore be regarded as a distinctive feature of early Cretan architecture. It is remarkable that in no case is there any visible inlet or outlet for the water, but slave labour may have been employed to empty them, and for their filling, too, so far as it was not effected by the supply of rain-water from the housetops.

A terrace wall divides this northern region of the bath and piazza from a considerable interior area of the building that lies between this and the zone laid bare by my last year's excavations. In this area, which includes the whole north-western angle of the palace, has now been uncovered a further series of large magazines opening on the long gallery already discovered. These freshly excavated magazines are ten in number, bringing the whole tale up to 18, and several of them proved to be exceptionally rich in their contents. In the southernmost of these the huge store-jars stood in double or single rows in unbroken order from end to end of the long chambers. The fifteenth magazine contained one of the best deposits of inscribed linear tablets yet brought to light, and here was found what must certainly be regarded as a royal standard weight of elaborate execution. It is of red porphyry-like limestone, perforated for suspension towards its summit, and is carved all over with cuttlefish in relief, their coiling tentacles affording the same protection against fraudulent reduction as the stamp of a coin or the milling of its edge. The stone weighs about 29 kilogrammes or 64 lbs. Interesting evidence was forthcoming of the existence of at least one upper storey above these magazines, and on the upper floor level were found fragments of painted vases in a style which for combined beauty and largeness of design surpasses any known ceramic fabrics of the Mycenæan age. Near the north-western angle of the wall, and also certainly belonging to the upper storey, were found various remains indicative of the former existence of an important feature of the building at this point. Here was found a continuous piece of stone frieze, or dado, with triglyphs and half-rosettes in relief, together with other architectural fragments. Here, too, fallen from the walls were parts of fresco-paintings containing in their original design a series of zones with human figures from about a fourth to an eighth of the natural size, and of special interest as supplying a wholly new version of the costumes of Mycenæan Crete. The men here wear long tunics, while the wing-like ends of long shawls or plaids hang down behind their shoulders; but most remarkable of all is the head and bust of a lady, the colours of which, and notably her brilliant vermeil lips, are almost untouched by the hand of time. She wears a high blue dress looped in front and bunched up behind with ribbonlike bands, the bows, loops and streamers giving the whole a somewhat Botticellesque aspect.

The men bear cups, the precious materials of which are indicated by their blue and yellow hues. Of the former wealth of the palace in such vessels a fresh proof came to light in a neighbouring deposit of tablets bearing, in addition to their inscriptions and numerical signs, figures of vases of characteristic metal shapes. Of goldsmiths' work of another kind a remarkable representation was supplied by a fragment of fresco relief found in a gallery near the throne room. On this are seen the thumb and forefingers of a man, beautifully modelled, holding the end of a beaded gold necklace with pendants in the shape of negroes' heads in the same material This African subject points surely to the quarter whence the gold itself was obtained, whether from Nubia, the Egyptian "Eldorado," or from the more western oases of Libya. Of contact with Egypt itself a highly important monument has come to light, dating from about the same period—the early part of the second millennium B.C.—as the diorite figure found here last year. It is the lid of an alabaster vase very finely engraved with a cartouche containing the name and divine titles of Khyan. Apart from the great rarity of monuments of this king, whose name does not appear in official lists, his appearance in a Cretan connection is of great interest. His name, as Mr. F. Ll. Griffith informs me, is not Egyptian; he is often entitled "ruler of foreign peoples," and he seems to have held sway over the mysterious Hyksos invaders of the Nile valley. It is worth recalling that a bronze lion with Khyan's name, now in the British Museum, was found in another direction as far afield as Bagdad.

The inscribed lid lay beneath a later Mycenæan wall and floor level, and it is perhaps not an accidental coincidence that about three yards from the same spot there came to light a fine Babylonian cylinder of lapis-lazuli mounted with gold and representing mythological subjects. It seems to be of pure Mesopotamian fabric, belonging to the class that supplied the immediate predecessors of certain "Hittite" types of Northern Syria. This is, I believe, the first authentic instance of the discovery of a Babylonian cylinder in the Ægean world.

The northern entrance way, partly excavated last year, was found to descend to a much greater depth, and fine walls of masonry, showing as much as eight courses, have here been exposed to view on either side. To the east of this and of the great court on which the throne room and other chambers open a further extensive palace region is now coming to light. These remains extend to the south side of the same court, which is now seen to be a spacious interior piazza. The buildings on the east side of this court include a series of small magazines, where considerable stores of plain clay vessels of various kinds lay in piles and nests. Other larger magazines contained many vases of new and remarkable forms, going back to the earliest period of the palace, while the still earlier clay stock below proved rich in neolithic relics, among which a number of primitive female idols in a squatting attitude are most remarkable. In the palace chambers on this side came to light a larger and a smaller press for oil or wine and their accompanying vats, and among the stores discovered are two sorts of cereals and small beans of a kind at present imported into Crete from Alexandria, and known as "Egyptian beans."

It becomes more and more evident that the Palace of Knossos, like Indian palaces at the present day, was a small town in itself, with a considerable population of slaves and artisans, who were employed on various arts and industries for the benefit of its lords. Various indications point to the fact that many of the beautiful intaglios, the clay impressions of which have occurred here so abundantly, were produced by engravers working within the building. In several chambers were found the paints and pounded gypsum used by the artists who executed the noble frescoes and reliefs that adorned the walls. In a room on the brink of the eastern slope was made a discovery that shows that the sculptor's art also flourished on the spot. Here was found a magnificent three-handled "amphora" of veined marble-like stone, with spiraliform bands and reliefs round its mouth and shoulders, of such calibre that it took eleven men with ropes and poles to remove it from the site. This fine work was complete, but beside it stood another smaller vase of the same material and general outline, but only roughly shaped out. The sculptor was apparently at work on it at the moment of the destruction of the palace.

Above this atelier, on the floor of a larger chamber, a find of a truly surprising character was made. Detached pieces of ivory and crystal began to appear, which were found to belong to a large board over a yard in length. It had been somewhat crushed and contorted, but the chief component parts were still in their places, though lying on the loose earth, and by means of framing and underplastering it was possible, after nearly three days' careful work, to get out the whole as it lay. In the magnificent object thus recovered we have undoubtedly the royal draught-board. The framework was of ivory, perhaps originally supported on wood, the board having perhaps also acted as the lid of a box to contain the men. The surface of the board formed a kind of mosaic of ivory, partly coated with gold, and crystal bars and plaques backed with silver and blue enamel—the Homeric Kyanos. At one end were a series of medallions arranged like those of the Egyptian draught-boards, such as that found in the tomb of Queen Hatshepsut, already known from the Enkomi example to have been imitated by the Mycenæans. This is followed by a kind of labyrinth of ivory and crystal, to which again succeed four large elaborately-jewelled medallions and nautiluses of ivory and crystal. The whole was enclosed in a frame of marguerites in relief wrought in the same materials.

Among the most interesting discoveries of the present season have been the large number of clay impressions of Mycenæan gems and signet-rings—some of them used for securing the boxes in which the inscribed tablets were originally deposited. The subjects of some of these are of striking novelty, such as a lady with a swallow at the end of a string, which seems to be serving as a lure to another swallow flying towards it. But what are we to say to a creature with the forepart of a hoofed, calf-like animal, and the legs of man, seated on a kind of throne? If this be not the Minotaur it is surely the Minocalf. That the local monster of the later Greek legends should thus have received illustration in Mycenæan times is a strange and significant phenomenon.

Excavations just south of the throne room on the western border of the central court have brought to light other interesting seal impressions, several of them with religious subjects, which tend to show that there was a shrine in this vicinity. From a series of more or less fragmentary impressions it has been possible, indeed, to put together a whole scene of ancient worship, in the centre of which a goddess akin to the later Rhea or Cybelê stands on her sacred rock, guarded on either side by heraldically posed lions. In front of her is a votary in the act of adoration, while behind is a small temple with two consecrated pillars. The broad steps that ascend from the central court, near the spot where the seals were found, seems to have led to a spacious "Megaron" or hall, resting on basement rooms, into which part of its original pavement had fallen. It was in one of these that there was found the fragment of painted relief already mentioned representing a man holding a gold jewel, which, with other fresco *débris*, gives some idea of the magnificent decoration with which the walls once were covered. At the south end of the same central court remains are at this moment coming to light which show that on this side, too, rose a hall adorned with painted reliefs of human subjects. An admirably modelled thigh and leg of a man, and an arm and breast, perhaps belonging to the same figure, must certainly be taken to represent the highest level ever reached by Mycenæan art. There is, as usual, a tendency somewhat to exaggerate the muscular display, but the human form is here seen as it was never again portrayed till the greatest age of Greek sculpture some ten centuries later. In this brilliant combination of the modeller's and painter's skill we may recognise the masterpieces of the craft associated with the legendary name of Dædalus. Round the breast and shoulders is a kind of chain of honour, the alternate links of which take the form of lilies; but another fragment supplies insignia of still more royal purport. It displays the upper part of a head wearing a crown which terminates above in a row of five sloping lilies of varied metal-work, with a higher one rising erect in the centre. That the *fleur-de-lis* of our Edwards and Henrys should find a prototype in prehistoric Greece is a startling revelation; but it was perhaps fitting that, as last year's excavations in Knossos brought to light "the oldest throne in Europe," so the more recent researches should produce its most ancient crown.

THE AGE OF THE FIRST PYRAMID.

In a letter to the *Times* Mr. J. Garstang writes:—

Some weeks ago your columns announced the discovery in Upper Egypt of an early royal tomb—that of Neter-kha, known as builder of the step-pyramid at Saqqara. Further examination has disclosed in the vicinity the tomb of his successor also, whose name, if it be rightly read Hen-khet, seems not to have been previously recorded.

The excavation of both tombs is now completed. They are situated westward from Girga, on the wide desert above the village of Beit-Khalláf. The superstructure of the larger may be seen in cool weather even from the further side of the Nile, but its construction having been anciently disguised, some burials also of the Roman period having been made upon the surface, it has not previously tempted the excavator.

From the top a stairway descends, first north, then west, to the level of the desert, then turns again south and passes at a steep angle under an arched roof, and so continues to descend to the ultimate further depth of 60 feet. This was the original approach to the chambers, but, subsequent to the burial of the king, the passage had been stopped at intervals by single large stones, each from 10 to 15 tons in weight and 3 to 4 metres in height. These remain an effective barrage to the ancient stairway; but the shaft originally sunk for lowering into position the stone that protected the entrance itself yielded a means of descent to the chambers when finally its position was determined. Anciently, like the stairway, it had been filled up and bricked over to conceal its position; a small hole made by plunderers, however, gave the clue, and eventually, after working down 90 feet through strata of sand and gravel of varying strength, the door of the chambers was reached and entrance effected.

Plunderers of the Roman age had already ransacked the burial chamber, tearing out even the masoned stones from walls and floor, and had hastily searched the side chambers and passages, burning and breaking as they went. But their quest was gold, and that which they tossed aside included many relics of archæological value. A thousand vessels of alabaster, bowls of diorite, breccia and other stones, jars that had been filled with wine and offerings, lay strewed about the entrances, so that it was impossible to pass at once without treading upon them from one to another of the eighteen chambers.

The impressed sealings record several chief officials and stewards of the king; there is one also of Per-ab-sen, whom the present king apparently succeeded; and two of the royal mother Hap-n-Maat, whose identity now becomes of increasing interest. The official title of the king is thus recorded—"King of Upper and Lower Egypt, Uniter of the two Egypts, Neter-khe, the golden (n w b)." The Horns name is the same.

To the east of this tomb are several mastabas of this king's chief servants. The plans of these tombs, though they were coeval, provide in themselves a remarkable sequence. They link at once the type prevailing in the earliest times (as illustrated by Professor Petrie's great work on the First and Second Dynasties at Abydos) with this large tomb which so well accords with the growing desire for massive grandeur that must have prevailed at the dawn of the Pyramid Age.

To the north, again, its superstructure rising in steps after the manner of the pyramid built by his predecessor, but otherwise similar in general design, is the tomb of the king whose name seems to read Hen-khet. The same features typify the burial; the sarcophagus was of wood, plundered and burned in Roman times; the head and remains of the king, however, with much of the tomb furniture and some scraps of the jewels were recovered.

From several considerations it seems probable that both kings belong to the hitherto unrepresented Third Dynasty of Egyptian history. If this be so, and the position of Per-ab-sen have been correctly assigned, then the latter closes the list of the Second Dynasty, while Neter-kha, followed by Hen-khet, opens the Third. It is not immediately possible to identify these names with those on the traditional lists; to work over the material will require time, and will involve a reconsideration of various statements made with regard to Neter-kha since the investigation of his pyramid in 1829. One thing seems more certain, that these tombs are near the site of historic This, which was situated, as had been supposed, in the cultivated lands nearer the town of Girga.

These excavations were made for the Egyptian Research account. By arrangement of the director an exhibition of the movable relics will, as usual, take place during July in the room adjoining that of the Egypt Exploration Fund at University College, W.C. By courtesy of the Department of Antiquities there will be included also some of the objects that will ultimately find their home in the museum at Cairo.

EGYPTIAN CIVILISATION.

Professor Flinders Petrie delivered the concluding lecture of his series on the rise of civilisation in Egypt at the Royal Institution, on Saturday afternoon. Having in the previous discourses penetrated into the nebulous fringe which still separates the prehistoric from the historic, but is in course of being dispelled, the lecturer described the advance of civilisation during the early historic times. During the reigns before Mena (about 4750 B.C.) no continuous inscriptions have been found, and signs are only used sparingly to explain figures and scenes. The first line of writing is on the tablets of the offerings at the funeral of Mena. In other respects Mena's position as first king of the First Dynasty marks the beginning of a new order. The earlier kings show more connection with the prehistoric conditions, both in the form of their tombs and in the nature of their records. Out of the ten kings who are stated in history to have reigned before Mena, four have been found named on their own monuments. The art of their time might easily have led into a very different style, and shows itself unsettled, but by the reign of Mena most of the conventions were established, and under his successor, Zer, the final crystallisation of the art took place, and no essential change occurs until its final decay 5,000 years later. This rapid fixation is like that in Greek art between the Persian war and Phidias. In the reign of king Zer the facility of design in a definite school became complete, and the seated figures of the king and the outline of the Royal hawk only differ from all later work by a severe dignity, which was rapidly lost afterwards. The technical ability shown in the manufacture of the jewellery lately discovered has never been exceeded since; the working of forms, the perfection of soldering and the power of varied design are as high as any known; later changes only involve complexity and labour, but no new ability. The linen of that age, as compared with modern fine cambric, shows a finer thread and a closer warp 6,000 years before our own. The art which decayed soonest was the working of hard and beautiful stones; this was at its highest about the time of Mena, and shows continuous falling off after that period, while no later age attempted to rival the taste of the First Dynasty. Foreign intercourse is shown by many vases, of which the material and forms are clearly of an Ægean source; such are absolutely dated to the reign of king Zer, and the starting-point of the history of Greek vases must now be taken back some three thousand years before the Mycenæan age. The reign of king Den is perhaps the most sumptuous, both in the small handiwork and in the grand paving of his tomb with red granite. Thereafter decay becomes more and more apparent, and the latter part of the First Dynasty was a time of cheap profusion. The Second Dynasty has a later tone; the tombs differ from the older type, the vases are nearly all of the easier materials, and the labour of inscribing them was neglected. The religion, and probably the dominant tribe, was changed. Horus was placed side by side with the rival Set, or even disappears altogether. Figures of the other gods begin to be portrayed, and the inscriptions and titles are hardly different from those in the later historic times. The earliest statuary that we have is of this age, and shows a high proficiency and completeness of design which proves that we yet have to recover many earlier stages. The lecture was, like the previous ones, copiously illustrated by representations and specimens, among which the gold-capped vases and sceptre found this spring were specially noticeable.

SCOTTISH GALLERIES.

THE annual report for the year ended September 30, 1900, of the Commissioners and Trustees of the Board of Manufactures in Scotland as to their proceedings in regard to the National Gallery, School of Art, Museum of Antiquities and other buildings and establishments under their charge has just been issued. To the Scottish National Gallery the following works of art have been added during the year:—Portrait of Mr. Andrew Plimer, miniature painter, by A. Geddes, A.R.A.; portrait of Mr. Alexander Bonar, of Ratho, and of Mrs. Bonar, both by Sir Henry Raeburn, presented by Miss S. A. Fleming; and portrait of Mrs. Douglas Dickson, by A. Geddes, A.R.A., bequeathed by Sir Douglas Maclagan. To the Scottish National Portrait Gallery, among other works, there have been added during the year a miniature of Viscount Dundee, by an unknown artist, presented by Mr. A. Sholto Douglas; a portrait of King James I. of Scotland by an unknown artist, and a portrait of King James V., by an unknown artist, both from the Watson collection; a portrait of Dr. Chalmers, by Kenneth McLeay, presented by Sir T. D. Gibson Carmichael; a portrait of Sir John Anstruther, pen drawing by George Dance, R.A.; and a plaster bust of Prince Charles Edward Stuart, by J. B. Lemoyne. The portrait of Alexander Pope, by Jonathan Richardson, has been deposited on permanent loan by the trustees of the National Portrait Gallery, London. During the year decorative portrait statues of Sir Henry Raeburn, James Hutton, Sir David Lindsay, Gavin Douglas and Lord James Douglas have been placed in niches on the exterior of the National Portrait Gallery buildings. The total admissions to the National Gallery during the year were 72,581, to the statue gallery of the Royal Institution 37,424, to the National Portrait Gallery buildings 19,828 and to Dunblane Cathedral 5,204. The number of objects of antiquity added to the Museum of Antiquities was 589 by donation and 397 by purchase, while 296 volumes of books and pamphlets have been added to the library by donation and 18 by purchase.

THE LIVERPOOL CATHEDRAL PROJECT.

THERE are indications that a great joust may again take place in Liverpool, says the *Courier*, over the important question of the site for the Liverpool Cathedral. In days of old, tournaments, while they provided subjects for poets and excitement for fair ladies, usually had disastrous consequences to the doughty cavaliers, and when a king's eye was knocked out and the wounded monarch died, as was the ill-fortune of Henry II. of France, there was a period of statutory prohibition. Churchmen in the diocese of Liverpool, and particularly those connected with the city itself, have reminiscences of one joust over a cathedral site. It is in a sense a misfortune that the occasion is becoming a matter of ancient history, because were recollection of the catastrophe keener there would be less chance of its repetition, even on a smaller scale. But as discussion cannot be prevented, it may be wise to direct it if possible to what is practicable, for, after all, while the search for the ideal is always laudable, in such a matter as the erection of a cathedral regard must above all things be had for the practicable.

"The First Bishop of Liverpool" had not been in charge of his See many months when the cathedral scheme was discussed. There was all the enthusiasm which the formation of the new diocese naturally evoked. "Certainly a cathedral," "By all means a cathedral," "Yes, we must have a cathedral," said one churchman after another. Yet there was always a "but," and the "butts" were very varied. "But it must be on St. Peter's Church site," hotly said one, a second would have none other but Monument Place, a third was passionately attached to St. John's Churchyard, a fourth would give money only if St. James's Mount were selected, a fifth wanted Kensington Fields, a sixth Commutation Row, and so on.

"Twelve weary months" Bishop Ryle spent with his committee in considering the whole subject. What a tourney that was. At last, on June 25, 1885, the Liverpool Cathedral Act received Queen Victoria's assent, and by that statute St. John's Churchyard was declared the chosen site. Three years were given in which a practical commencement was to be made. They passed. The Act is dead. The Great Heath has reverted to the Corporation by purchase, and no one now suggests the resuscitation of that proposal. The joust was fatal to all the combatants, and the president died after abandoning all hope that he would ever see a practical attempt made to supply the first great want of the diocese—"a new cathedral worthy of our great city of Liverpool." Now Dr. Chavasse is head of the diocese, and he, too, has entered upon the problem with the assistance of a committee. The members of that committee, fortunately, are gentlemen who can well remember the first joust; yet, as already remarked, there is a possibility that some of them are not disinclined for a second, hoping, of course, that the sport may not be fatal to all the combatants. Mr. Robert Gladstone, armed cap-à-pie, has entered the ring first, and it may be worth while seriously to consider whether or not he gives the only practicable site, while admitting it may not be the ideal which, were Liverpool nearly all green fields or the committee possessed of unlimited capital, the public would unanimously approve.

What is the dominant factor in considering the practicability of any proposal? Money, even though an Apostle declares the love of it to be the root of all evil. "How much money is available—how much will each site cost?" A mere commercial transaction, but there is the highest authority in favour of such a course. The exact quotation will at once occur to all churchmen and need not be given. The late bishop stated the cost of site, building and endowment to be at least 500,000*l.*, and three of the designs submitted to his committee put the cost of the building alone at 400,000*l.* It becomes evident at once that on such a scale the site must either be got for nothing or the endowment be left undone. The former is impossible; the latter inexpedient, but not absolutely necessary. Now as to the amount of money available. Already about 125,000*l.* have been promised without any subscriber having stipulated that his contribution is contingent upon the adoption of any particular site. Several undoubtedly have predilections; wisely they are content so far with expressions of opinion. Churchmen believe that with a united effort, and a period of years for the fulfilment of large promises, 500,000*l.* will be raised, perhaps more; but half a million may reasonably be depended upon.

Let us therefore start our survey of sites with these three considerations in view:—

1. Probable subscriptions	£500,000
2. Cost of building	400,000
3. Balance	100,000

It is clear therefore that the site must not be ruinously expensive. The new general post office stands upon a site which cost nearly 150,000*l.* A fringe of land to widen North John Street recently cost the Corporation 5,000*l.*; another still smaller just acquired will cost 4,000*l.* Such figures at once bar the acquisition in the very centre of the city of any site now covered with commercial buildings. There is, however, St. Peter's with the churchyard. It is the present substitute for a cathedral. A larger building might be squeezed in there. But it would not be large enough, it would be concealed from view on three sides, infinitely worse than St. Paul's in London, and the street front would have no perspective. The roar of the city traffic would disturb the devotions if it would not drown the praise of the congregations. And the instant the enlargement of the site is suggested east or west or south the appalling cost of land per square inch and the equally heavy cost of compensation to established businesses combine with the other drawbacks of the position to secure a practically unanimous rejection of that site. St. Peter's may remain a parish church; it can never be the cathedral site. What about the George's Dock site? The cost would be very great—the Corporation gave about 11*l.* a square yard for it, and could not take less; the position is unsuitable. It would look grand from the river. Birkenhead would be able to daily admire it; but a cathedral is wanted for Liverpool, not for the "city of the future," which is situate in the diocese of Chester. Such a site is favoured by few, and may be dismissed.

There are two sites which very many believe to be almost ideal. One is Commutation Row to Fraser Street, bounded by London Road and Islington; the other is Monument Place to-

Anson Street, bounded by London Road and Pembroke Place. If the cathedral were built upon the former it would be a great step in the direction of completing the grand " place " of which St. George's Hall is the central feature, and of which the Walker Art Gallery, Picton Reading-room, Brown Museum and the new Technical School are other splendid architectural features. The towers and spire could be seen without interruption from Dale Street and Whitechapel. There would be a splendid perspective; streets would surround the sacred edifice; it is central; it is approached by electric car routes from all parts of the city. A truly excellent site. And almost as much may be said in praise of the Monument Place site. It stands higher, it has a broad open ornamental space in front of it giving a magnificent approach; it would be a Saul among the surrounding houses; it is central and accessible. Either of those two is worthy of such an edifice for situation, although not quite perfect. Each suffers from the fact that the surge of traffic never ceases on both sides, with no prospect of any diminution. The noisy swish of the overhead trolley is not an aid to a contemplative or devotional spirit. Then with regard to Monument Place the surroundings are poor, not to say contemptible. And the experience of cathedral towns does not suggest that the surroundings would change.

These minor objections may be waived alike by supporters or opponents of either of these sites. The roar of the busy world can easily be excluded, and a cathedral is as necessary in a poor district as a rich. The price it would cost to acquire the land and compensate people now in possession is an insuperable obstacle unless Mr. Carnegie or some unknown, but equally generous millionaire comes forward and makes a present of 200,000*l*. or 300,000*l*, leaving 500,000*l*. available for other purposes. It is calculated by competent authorities that the Commutation Row site, with compensation to the businesses now upon it, would cost nearly 300,000*l*., and the other 200,000*l*. He would be rash indeed who would say that churchmen and women wish to sink so much money in mere preparatory work at the risk of diminishing the size or spoiling the architectural beauty of the edifice itself. Moreover, in either case there would be public streets to close, and an Act of Parliament would be necessary. Parliament is not prepared to disestablish and disendow, but its processes of legislation in matters concerning the Church of England are not so well oiled as to seek needlessly to undergo them. Reluctantly, yet with clear conscience as to the necessity, the "almost ideal" must be put aside as beyond the reach of the present generation, when there is not even a rumour, such as was whispered some years ago, that a generous public benefactor, whose name is associated with one magnificent building, is prepared to give at least a quarter of a million to such a scheme. All the arguments against these two sites apply equally to the suggested site between Lime Street and Hotham Street, bounded by London Road and Lord Nelson Street.

The next central site which has been recently mentioned is St. Luke's, at the top of Bold Street. Here cost is not the chief objection. It would be necessary to acquire the land up to Rodney Street, and while that would be comparatively costly, it would be only a small portion of the whole area. But what are the other conditions? At present the finest local specimen of ecclesiastical architecture is upon the site, erected at a cost of, it is said, 80,000*l*., although that seems an exorbitant figure. The church is in good condition, and is well situated for parochial work. Why should such a structure be demolished to build a cathedral? But the site is unsuitable from a mere matter of levels. It is on a steep slope, and on the south side would be hedged in by other buildings. These drawbacks would not be compensated for by the Bold Street perspective, and on the whole if a better site is obtainable it would be expedient to leave well alone. The merits and demerits of St. James's Mount must be reserved for another article.

THE BUFFALO EXPOSITION.

TO arrive, says Mr. Claude Bragdon in the *American Architect*, at the Exposition grounds, Buffalo, by way of the West Amherst gate, at which the Elmwood Avenue cars deposit the casual visitor, is much like entering a vast and beautiful auditorium by way of the stage-door. The eye is first assailed by an expanse of tawdrily painted scenery rising above a jumble of cheap and flimsy buildings ; then, after running a gauntlet of shoddy Midway architecture, one arrives at a graceful little bridge spanning the canal that surrounds the Exposition proper, and there order and beauty emerge triumphant, like music above the vulgar clatter of a street. This canal, sodded to the water's edge and lined on either side with young Lombardy poplars, their green shafts, like a double row of columns, mirrored in the quiet water, is in itself a charming episode—an effect of nature sufficiently formal to be in complete accord with the architectural scheme.

Beyond the Bridge the highway debouches to right and left to make room for what appears to be a long sunken garden, reached by broad flights of easy steps, the mall being flanked throughout its length with white statues in Italian fashion, and overshadowed by the imposing façades of the machinery building on the north and the electricity building on the south.

Emerging from the Court of Fountains the Electric Tower first claims the eye. This feature is the very centre and focus of the Exposition. Intercepting the main axis of the grounds, and standing at the end of a long and imposing approach, it is, as it were, the high C of the entire architectural symphony, being artfully led up to by the converging perspective lines of the adjacent buildings, the planting and terracing, and by the arrangement of basins, cascades and fountains. Already in its uncompleted condition it is splendidly imposing, and at night, gleaming with thousands of electric lights, it will form a spectacle of unexampled splendour. A monumental fountain at the base of the tower will discharge its waters in a succession of cascades into a great pool flanked in semicircular fashion by high curved Corinthian colonnades terminating in graceful pavilions containing groups of statuary.

The Court of Fountains, though much less in extent than the famous Court of Honour of the Chicago Fair, promises to outrival it in architectural beauty, if one may judge from the carefully-wrought model which was shown at the recent Architectural League Exhibition in New York. In its present state very little of this beauty appears, for the whole place is a waste of mud and timber with which are mingled the more or less dismembered forms of sea-horses and aquatic deities. At the far end Martiny's beautiful statue of "Abundance" (minus an arm) rises out of the centre of a board shed within which the fountain, of which it forms the crowning ornament, is building. At this point the Court of Fountains broadens out laterally, like the letter T, the Horticultural Building being at one end, and the Government Building at the other. In front of each is a fountain and a garden adorned with statuary in bewildering confusion. Extending completely across the north side of this broad esplanade (except where interrupted by the thoroughfare from the bridge) are long curved pergolas of graceful design, for the shelter of the crowds in bad weather.

The Bridge, after the Electric Tower, will form the most imposing single feature of the Exposition, being, as it were, its other pole, since it is placed at the beginning of the long vista which culminates in the distant tower. Four great pylons, sumptuously decorated with columns, pilasters, groups of statuary, arms and eagles, occupy the angles of the bridge, while between them it sweeps out into the lagoon in two semicircular curves. North of the bridge a sunken forecourt and a triumphal approach flanked with columns affords the necessary transition between the formal landscape architecture of the Exposition grounds and the natural beauty of the park beyond.

Such a rapid and cursory survey of the grounds and buildings as is here described gives rise to several distinct general impressions, all of them pleasurable. The architecture first engages the attention. It is evident that all of the buildings, from the smallest to the greatest, notwithstanding their individual diversity, are of one style, a Spanish Renaissance, sometimes freely, but always consistently treated. It has been given out that this style was chosen because, introduced into Mexico by the Spaniards with their conquest of that country, it became and has remained the distinctive architectural style of Southern and Central America ; but its employment scarcely needs such justification. It lends itself to the varied uses of an Exposition of this sort with an extraordinary felicity ; with its plain wall-surfaces and concentration of ornament it well expresses the fictile nature of the material employed, and gossamer forms of beauty, impermanent as a bride's cake, which would be intolerable if done in hard and enduring stone, become charming in ephemeral plaster, speaking to the soul of things gay, exuberant and festal, free from the pretence of permanence and that severe dignity which the French criticised in the buildings of the Chicago Fair.

The colouring of the buildings is sure to arouse much discussion and provoke criticism, for it is attempted not timidly and tentatively, but largely and boldly, with no fear of strong contrasts and primary colours. A great many years have passed since cultivated people found themselves obliged to accept the fact that the Greeks coloured the " stainless purity " of their white marble temples with no unsparing hand, yet modern architects with this precedent, to say nothing of that of Egypt and the brilliantly encrusted walls common in Italy, have made few attempts at coloured architecture. Mr. Turner's experiments at the Pan-American are likely to inspire them to be more daring. So far as it is possible to judge, the colour scheme is highly successful. Certainly, no pains have been spared to make it so. Small models of all the buildings were first made and coloured, and the effect carefully studied. Next, each architect's drawings received detailed treatment at the hands of the colour experts, and, finally, the experiments were extended to the buildings themselves. After all is complete, and before the crowd appears, Mr. Turner, with a corps of assistants, will add a few finishing touches, making such changes as are necessary to "pull it all together," just as an artist does in finishing a picture. The colour scheme, as conceived by Mr. Turner, though it attempts to please the eye only, is highly psychological and philosophic. Throughout the grounds there is a progression from warm colours to cold, from primary to secondary and tertiary which corresponds to the development of the colour sense in the human race. Near the entrance, reds and yellows abound in effects almost barbaric. Little by little as one progresses the colours cool and soften. The Electric Tower is white and golden-yellow, and here the note of blue-green, the colour of Niagara, first prominently asserts itself, to be echoed and repeated and associated with violet in the propylæa and casinos grouped about the Plaza at the extreme southern end of the Exposition grounds. The three primaries are omnipresent in the blue sky, the red-tile roofs, and the broad, pale-yellow wall-surfaces relieved against the green of the trees, and they are repeated in each building, and in various parts of the same building, just as the rainbow is repeated in every drop of water. The use of bright, strong colours is mostly confined to the decorative ornament surrounding windows and entrances and adorning cornices, and in this way the architectural design is reinforced and emphasised.

The entire Exposition is an object-lesson in the magnificent result it is possible to obtain by the intelligent and friendly co-operation of architects, engineers, landscape gardeners, sculptors and decorators working together in their several ways, like the members of one orchestra, towards a pre-determined effect of beauty. The average visitor will never know how much of time, thought, money and strenuous effort went to the weaving of the spell which holds him; but the dullest and most callous can hardly fail to be stirred by a vague discontent with the environment of hideousness in which he for the most part dwells, and this may lead him to realise that there are men competent and ready to make that environment beautiful as soon as he and his fellows choose to demand their aid.

TESSERÆ.

Art under the Tudors.

ART in no nation could well be lower than it was in England when Henry VIII. succeeded his father, and artists never stood lower, either in the scale of genius or in the estimation of mankind. They were numbered with the common menials of the court; they had their livery suit, their yearly dole and their weekly wages. Their works, too, were worthy of their condition. The following singular memorandum is from a book belonging to the church of St. Mary in Bristol. The subject referred to is a religious pageant, which seems to have been composed of strange materials, and to have been the united production of all the incorporations:— "Memorandum: That Master Cumings hath delivered, the 4th day of July, in the year of our Lord 1470, to Mr. Nicholas Bettes, Vicar of Radcliffe, Moses Couteryn, Philip Bartholomew and John Brown, Procurators of Radcliffe beforesaid, a new sepulchre, well gilt, and cover thereto; an image of God Almighty rising out of the said sepulchre, with all the ordinance that longeth thereto; that is to say,—Item. A lath, made of timber, and iron-work thereto. Item. Thereto longeth heaven, made of timber and stained cloth. Item. Hell, made of timber and iron-work, with devils in number thirteen. Item. Four knights, armed, keeping the sepulchre, with their weapons in their hands, that is to say, two axes and two spears. Item. Three pair of angels' wings; four angels, made of timber, and well painted. Item. The Father, the crown and visage; the ball, with a cross upon it, well gilt with fine gold. Item. The Holy Ghost coming out of heaven into the sepulchre. Item. Longeth to the angels four chevelers." The rude simplicity of this curious memorial, and the singular mixture of carving and painting, and chipping and hewing which the work required will speak for themselves. Scarcely less ludicrous are the written instructions which Henry VIII. left for a monument to his own memory. "The king shall appear on horseback," says this strange document, "of the stature of a goodly man, while over him shall appear the image of God the Father, holding the king's soul in his left hand and his right hand extended in the act of benediction." The whole was to be in bronze, and much of it was completed, but the parsimony of Elizabeth prevailed over her respect for her father; the work was stopped, and the Puritan Parliament sold the whole for 600*l.* During the reign of Henry VII. painting rendered Italy the most renowned nation of the earth; but till near his death our island continued as of old, in gross ignorance of all that genius, beauty or grandeur give to art.

Trefoils and Quatrefoils.

Something besides mere beauty of form was the reason of the ornamental panels and the open tracery of windows adopted by the ecclesiastical architects of the Middle Ages. They were often indeed so deeply symbolical that we can now scarcely hope to discover the subjects to which many of them refer. Two graceful panels which frequently occur among ancient embellishments, and which are often adopted by modern decorators, though without any just feeling of their true meaning and significant origin, may be taken as examples. The first consists of three acute angles and three semicircular arches; it occurs in ancient decoration and church windows, as a framework for the sacred name, the Cross, Agnus Dei, Dove and similar subjects having direct reference to the Deity. The propriety of this arrangement will be at once understood when the lines forming the panel are united and carried home; the figure then developes itself into the well-known Delta, the most frequently used of all emblems of the Trinity, the three equal limbs having each a circular nimbus or glory. Thus understood, the outline becomes a most fitting frame for the subjects already mentioned; but it is obviously inappropriate for emblems of inferior importance as those of the evangelists. Sometimes this nimbed Delta contains a heraldic shield, which is, however, always charged with some appropriate religious bearing, such as the cross; the symbolism of this example is heightened by the trefoiled cusps in each semicircle or half-nimbus. In some instances, and particularly in church windows, the figure is inverted, one of the angles being placed at the top. The second of these ornaments, though less important, is still very interesting. It consists of four right angles and four semicircular arches. When the lines are completed, as in the previous example, the figure becomes a square, having on each side a circular nimbus. We presume that for this reason it has been adopted by Christian artists as an appropriate frame for the symbolical representations of the Evangelists, of which numerous examples may be found in sepulchral brasses, where they form the corners of the border containing the inscription.

The People in Saxon Times.

The Saxon laws exhibit the great personal division of society into the bond and free, the freemen being mentioned throughout these laws as contradistinguished from the villains. The "liber homo" or "freeman" has therefore existed in this country from the commencement of our institutions, and the term has also continued in use to the present day, although it has been perverted from its original signification, and has thus been productive of much error. As to the local division of the country, the essential distinction was between shires and boroughs, the former being subdivided into hundreds, tythings, lathes and wapentakes; the latter, where their extent rendered it necessary, into wards. The Saxon laws refer both to these personal and local distinctions. As to the former, the "freemen" were distinguished from the "foreigners" or "strangers," and the "servi" or villains. The lords were answerable for the conduct of the last—the freemen for themselves. They were prohibited from vagrancy, and all their dealings were to be transacted in the town before the king's officer; they were restrained to a fixed residence, and were bound by oaths and pledges (borghs) to keep the king's peace and to obey the law. The householder was the person responsible for the due regulation of his house and the conduct of his guests or inmates. Our law from the earliest period favoured the freedom of the subject, and therefore the various codes of the Saxon laws point out the numerous methods by which the servi or villains could be made free, which did not depend upon tenure alone. So marked was the distinction between those of free and servile condition that prohibitions, enforced by fines, were directed against the harbouring of fugitive villains. The local divisions of shires and boroughs had their presiding officers and separate jurisdictions. The alderman at first was the presiding officer in both, but subsequently the more specific names were applied to the king's officer in each of "shirereeve" for the county and "portreeve" for the borough. The pledges of the freemen were given, their oaths of allegiance taken, and their public duties and the local government regulated in the folkmote, which, in after times, was in the counties called the "shiregemote" or sheriff's tourn, and in boroughs the burghmote or court leet of the borough. In those courts from which we have derived our system of trial by jury, persons were sworn to make the necessary public inquiries and to decide disputed facts. Another important point established by these laws is that every freeman in order to be law-worthy—by taking upon himself the burdens and responsibilities of the law, and by those means entitling himself to its privileges—was bound to submit himself to the jurisdiction of the hundred, decenna or borough; and if, after twelve years of age, he neglected to do it, he was subject to punishment for his default. So that by these institutions a freeman (or liber homo) was as regarded his own rights entitled, and as related to the public, bound to perform the duty of putting himself under pledge and security by oath to abide by the law.

Progressive Art.

There is, it seems, a general impression that all possible forms of architecture have been so thoroughly worked out, and the ground so completely occupied by the various existing styles, that there is now no room left for the genuine development of a new one. People seem to say that nothing remains for us but to choose as best we may a little of this and a little of that—a little of anything, in short, that best suits our own tastes or fancies; that we can never trace beauty so far to her true source as to enable us to draw at once from her pure fountain; but that we must rest content to satisfy our longing after the noble and the lovely with the mingled streams of all that has come down to us from the works of former ages. The solution of this question depends mainly, so to say, upon ourselves. To see what has been already done within these last few years, to see how much the ordinary standard of people's taste has been raised, gives us hope and expectation for the future, but it affords us no certain ground for concluding that art has really taken root, or that it will ever again become more than a mere imitative art. To be at all certain on this point we must ascertain whether we have really arrived at a knowledge of some of the principles of beauty; not simply that we can appreciate beauty, or even produce forms which we believe to be beautiful, but that we can tell exactly wherein it is that the beauty itself consists. Otherwise, though we may at times stumble upon it by accident, or get a little practical knowledge of it through an acquaintance with ancient art, we shall not be enabled to call it our own—it will still be borrowed beauty. If we wish to get out of the leading strings of mere copyism on the one hand, or beyond the reach of the caprices of mere taste and fancy on the other, we must consent to submit ourselves to some wholesome restraint. So long as we are subject to the most uncontrolled eclecticism or continue the victims of a mere fanciful and capricious taste, everyone must be mainly dependent upon his own inherent unaided powers, and he must wander hither and thither in vain for a more perfect development of high art.

Street Names in London.

Even where buildings have disappeared, and country has been merged in town, names survive, and a thread of poetry runs through the foulest neighbourhoods. Our street nomenclature takes us back to the days when the Clerken Well bubbled up in green meadows by the stately Priory of the Knights of St. John; when the limpid Fleet flowed down by it from the heights of Hampstead past pleasant Saffron Hill into the valley of Holborn, where, meeting the Old Bourne, their united waters became a navigable stream, and bore loaded ships and barges to the Thames. Then we have feudal London, when the Barbican lying out beyond the City walls was the advanced post of Cripplegate, and when the Fitzwalters, Bannerets of London, held their feudal state in Baynard's Castle, almost within arrow flight of St. Paul's. At the outbreak of a war, the chief banneret of the day was "bound to appear at the west gate of St. Paul's armed and mounted with twenty attendants, and there receive from the mayor the banner of the City, a horse worth 20*l.* and 20*l.* in money." Then there was monastic London, in which, as might be expected, the Church had made good her claim to her own share of property and privileges. Friars abounded—Black, White, Grey and Crutched. The Hospitallers of St. John had their priory at Clerkenwell, of which a gate still remains; and the unlucky rival order had their quarters at the Temple, to which, they have bequeathed its name, and where their arms have given place to wigs and gowns. There were Westminster, Covent or Convent Garden, the Minories, named after the *Sorores Minores*; to say nothing of all the localities bearing holy names under the sacred shadow of St. Paul's—Rood Lane, Holy Lane, Ave Maria Lane, Paternoster Row, and Amen Corner. There the stronghold of the class that claimed a monopoly of learning is become the fountain-head of free trade in literature. Many of the older names in the City have become so corrupted in course of time, or their origin is so lost in the haze of antiquity, that it is almost idle to speculate on them.

Characteristics of Ornament.

Egyptian ornament is thoughtful and always allegorical. There are serpents' heads, winged globes and palm-leaves. Straight lines predominate, and the curves are slight and pyramidical. The Assyrian is still quainter, simpler and more primitive. It is full of diamonds, circles and pilasters, crossbars, crescents and cables. The Greek revels in noble sweeping curves and in fretted foliage, highly conventionalised. The Oriental types in their art lost their symbolic character and became enriched and idealised by fancy; harmony and a sweet grace are in every line. The Etruscan is rude and Asiatic, with Greek luxuriance. It has leaves and frets and circles. The Roman is strong and vigorous, leafy, luxurious, and voluptuous. The Byzantine is barbarian, rich, knotted, linked and studded like embroidery. It is vigorous but conventional, sometimes grotesque and humorous, always varied, but full of strange harmonious confusion. The Moorish is the poetry of geometry and the mathematics of colour, varied and changeful as nature. The Gothic is nature subdued and limited by rules and space. The Renaissance is poetical and extravagant, florid and bombastic, yet decorative and adaptive. The Cinque Cento is jewellers' work, costly, minute and fanciful. The Indian is varied—strange in its blendings and studied intermixtures, tropical and bold in colour, arranged by the instinct of men of a hot climate; but the Persian is the most graceful and poetical of all Oriental work; gorgeous and yet delicate in colour, it is full of the broadest effects of contrasting hues, and wreathed and blossomed with threads of flowers, bright as those of a missal. In the harmonies of dyes there are invention and imagination; in the lines lie the secrets of new flowers and a whole Paradise of beauties, both of form and colour. It may be almost deemed the climax of one order of ornament, the Mixed, which, though more pure in creation than the Gothic, is less natural and less national.

REGISTRATION OF ARCHITECTS.

A MEETING of architects, convened by the Council of the Society of Architects, London, was held on Wednesday evening in the Burgh Court-room, Edinburgh, Mr. T. Walter L. Emden, L.C.C., president of the London Society of Architects, being in the chair, to consider a paper by Mr. Ellis Marsland, hon. secretary of the Society of Architects, on "The Statutory Registration of Architects." Registration was defined as meaning in effect that the Institute examination would be made compulsory by Act of Parliament. Inactivity, said the speaker, was placing the Institute in a false position, and was causing a vast amount of dissatisfaction, especially among provincial members, as the want of such a measure of reform was felt far more keenly by them than London men. Mr. Marsland appealed to those present to assist the committee who had the conduct of the Bill now before Parliament, and moved, "That this meeting cordially approves the principle of the statutory examination and registration of architects, and is of opinion that it is desirable in the interests of the public and the architectural profession to promote a Bill in Parliament for the attainment of this object." The motion was unanimously adopted.

GENERAL.

Lord Currie, the British Ambassador at Rome, has just paid 12,000*l.* for a property near Subiaco, on which there is supposed to be a villa built by the Emperor Nero. Excavations are to be commenced at once under the personal supervision of Lord Currie.

Dean Farrar has made an appeal on behalf of the fund for the restoration of Canterbury Cathedral, this being now entirely exhausted, although much remains to be done. He was much grieved and astonished by the small amount of generosity shown to meet the necessities of the premier cathedral of England.

M. Daumet, of the French Institute, and a number of other architects have petitioned the Senate against any interference with religious orders, on the ground that many of their buildings are the glory of France and that they are likely to continue furnishing employment to the building trade.

Monuments to Schiller and Goethe already exist in Weimar; the memory of Shakespeare is shortly to be honoured in a like manner.

The Greek Pavilion which was admired at the Paris International Exhibition has been taken down, and the 6,000 pieces of faïence, terra-cotta and steel which composed it have been marked, and are to be transported to the foot of the Acropolis of Athens, where the pavilion will be reconstructed.

Mr. Joseph J. Taylor, the archæologist, who died last April, has authorised his executors to expend not exceeding 50c*l* in the completion of his work on "The Wall Drawings and Monuments of El Kab." They are also to pay the rent of the carving school at his native place, Mayfield.

The New Tower to the ancient parish church of Broughton-in-Furness, which has been erected by Lord Cross at his own expense, and the new peal of bells were dedicated last week. The tower has been designed by Messrs. Austin & Paley, of Lancaster, and is in keeping with the Norman church. The new bells are eight in number, two of them being the gift of Lord Cross.

The Annual Meeting of the Somersetshire Archæological and Natural History Society will be held at Bristol on Tuesday, July 30, and two following days. Visits will be made to various places of interest in the northern portion of the county.

The Society of Engineers will hold their next ordinary meeting on Monday night, June 3, at the Royal United Service Institution, Whitehall, when a paper will be read, entitled "Concrete Subways for Underground Pipes," by Mr. A. Taylor Allen.

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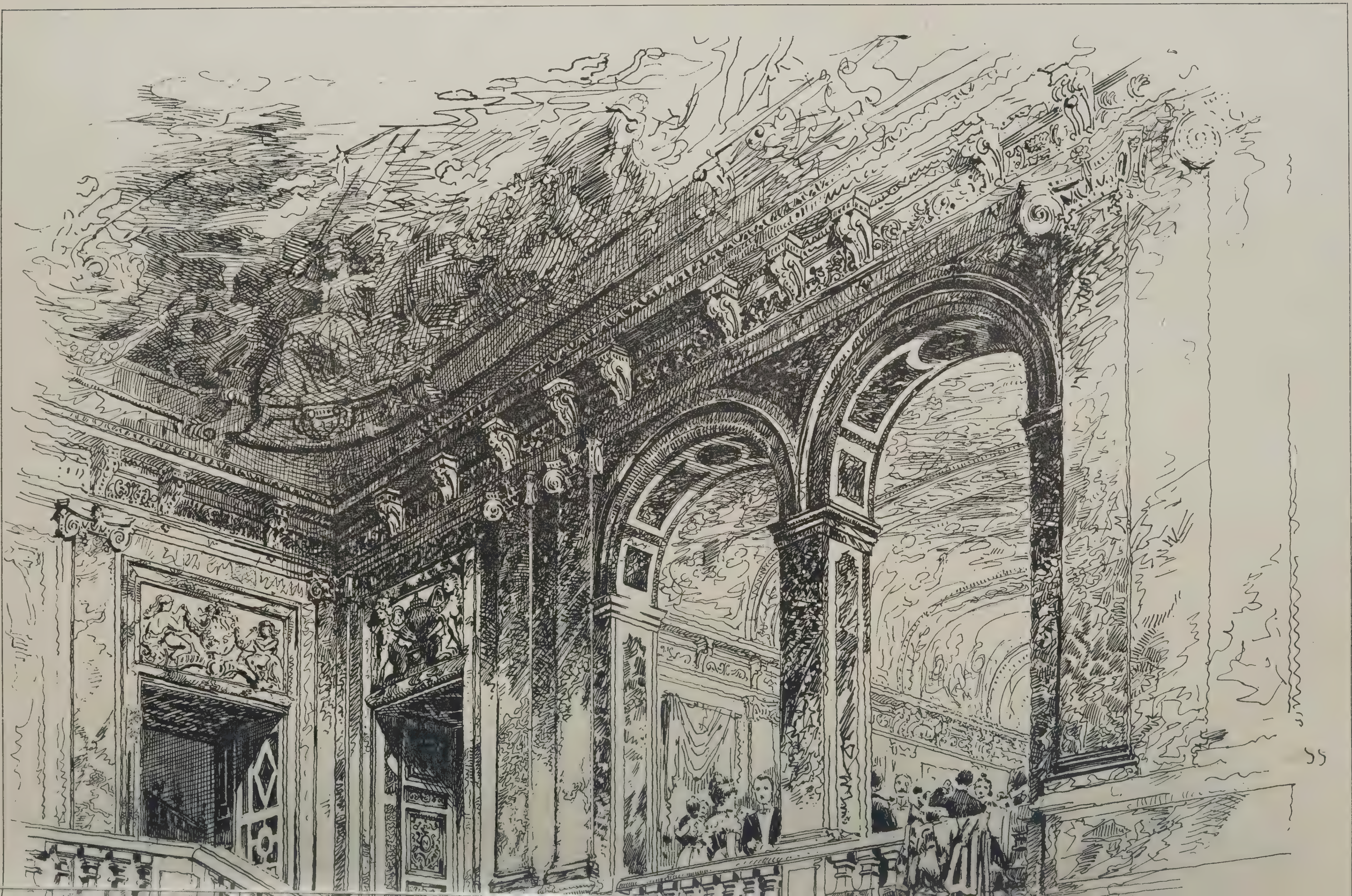
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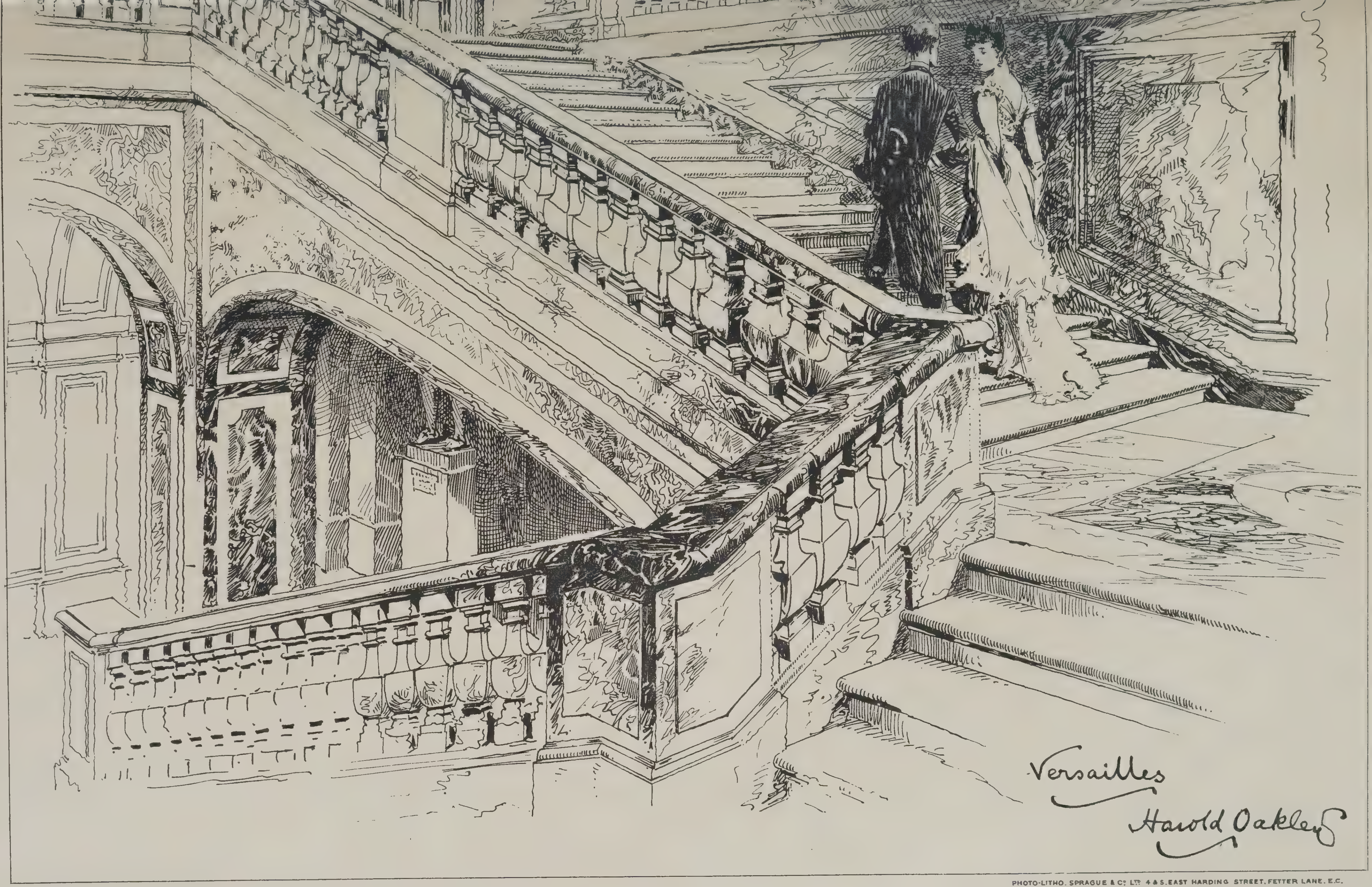

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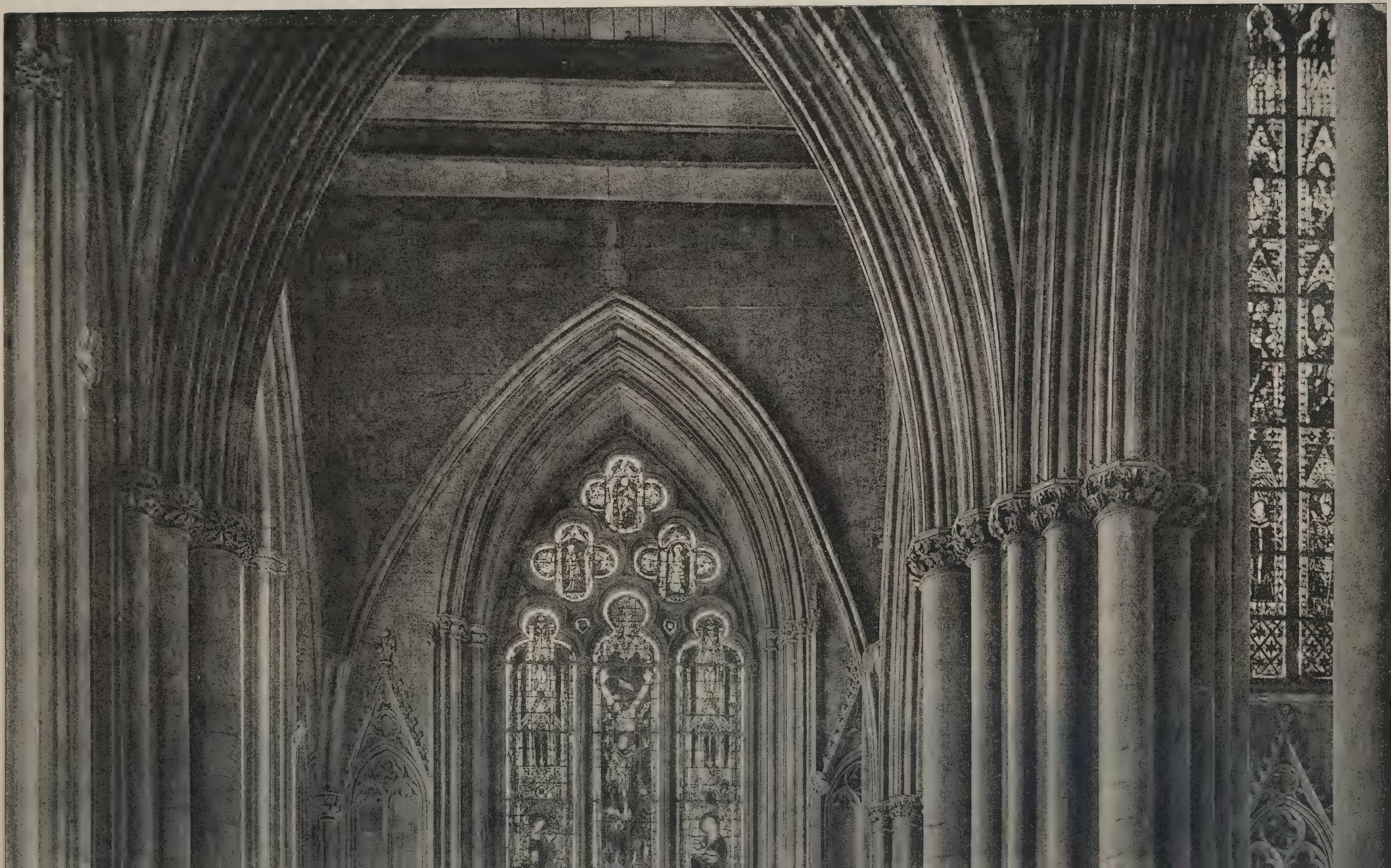

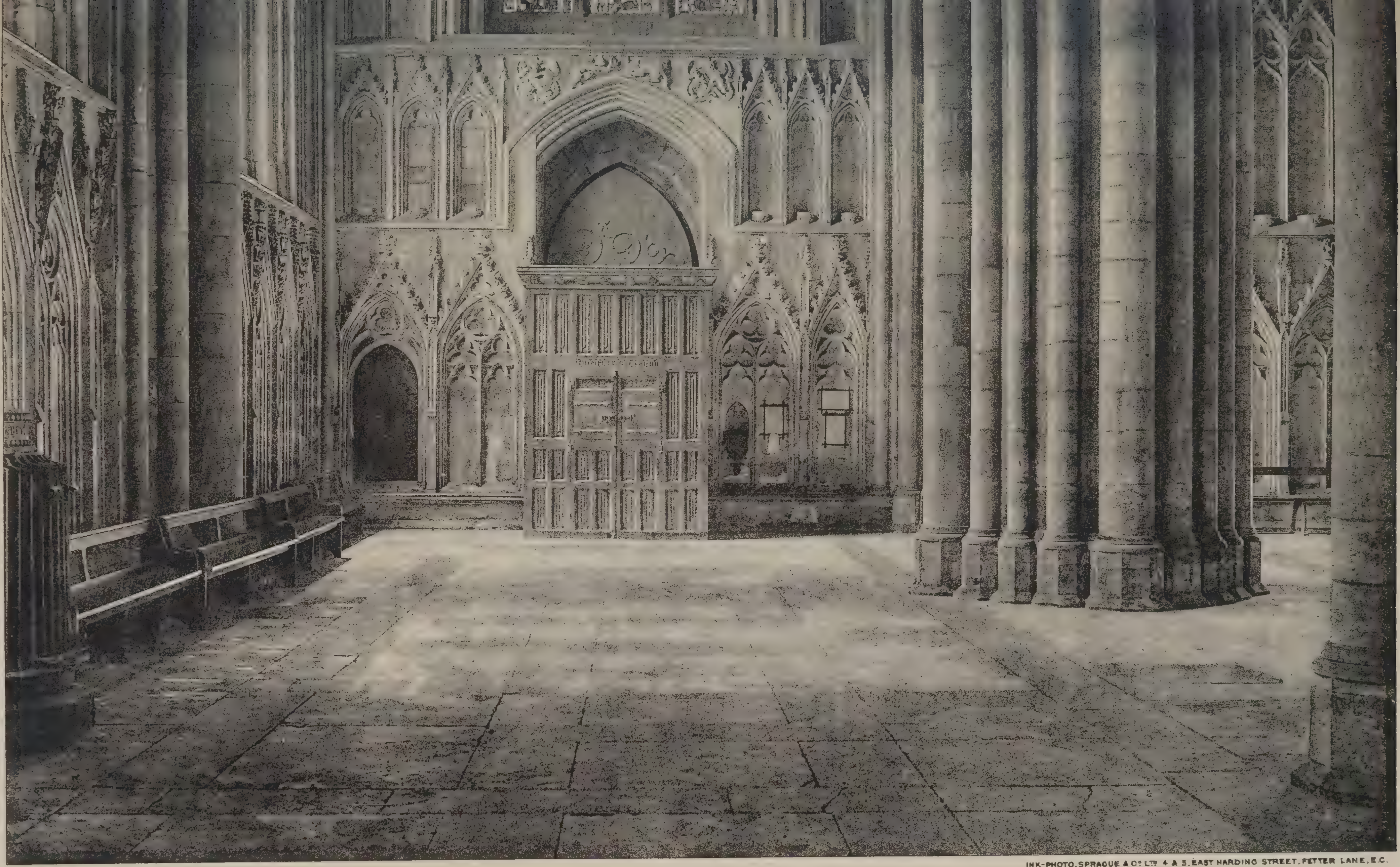

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Cathedral Series, No. 336.—York Minster: West End of South Nave Aisle.

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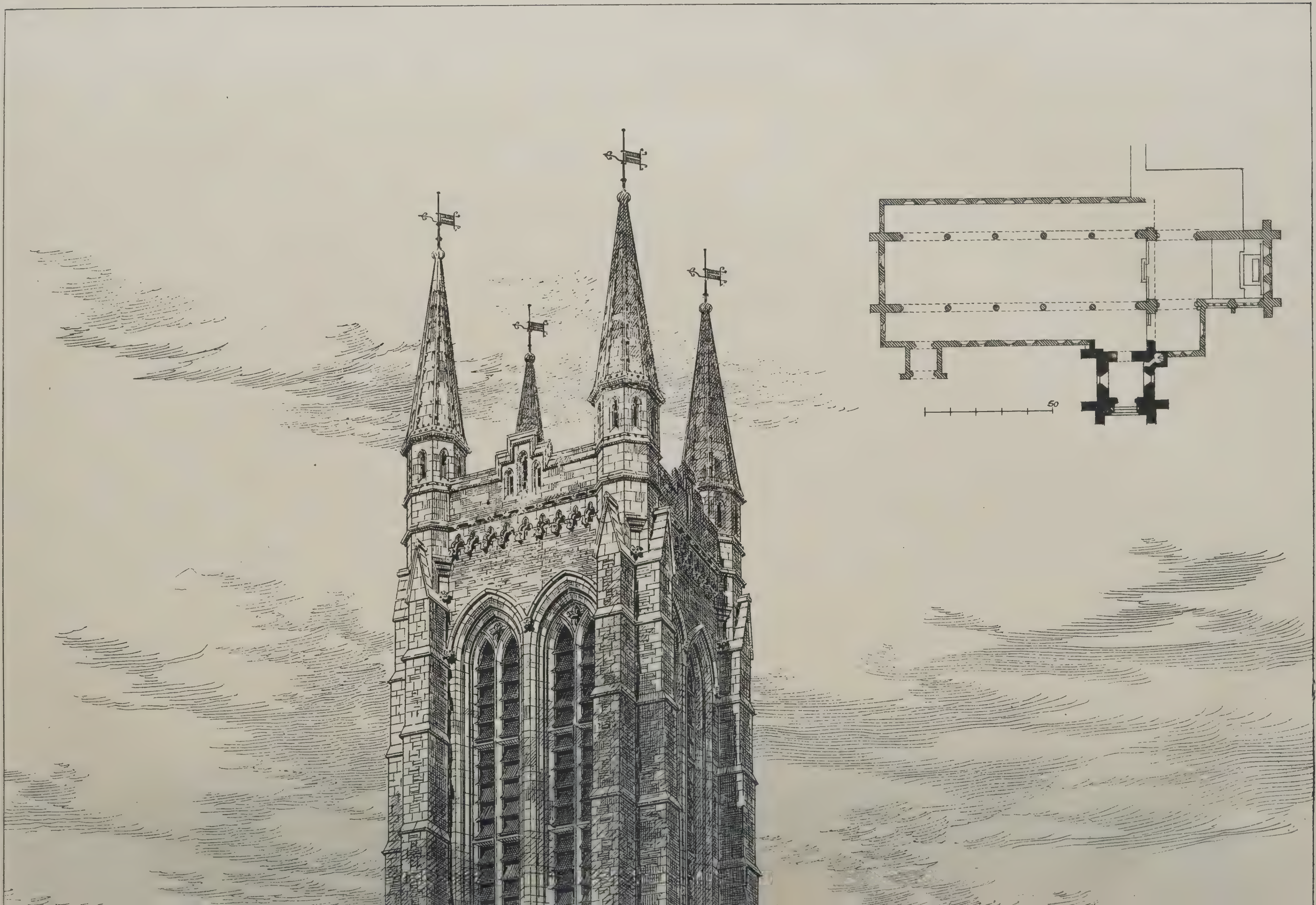
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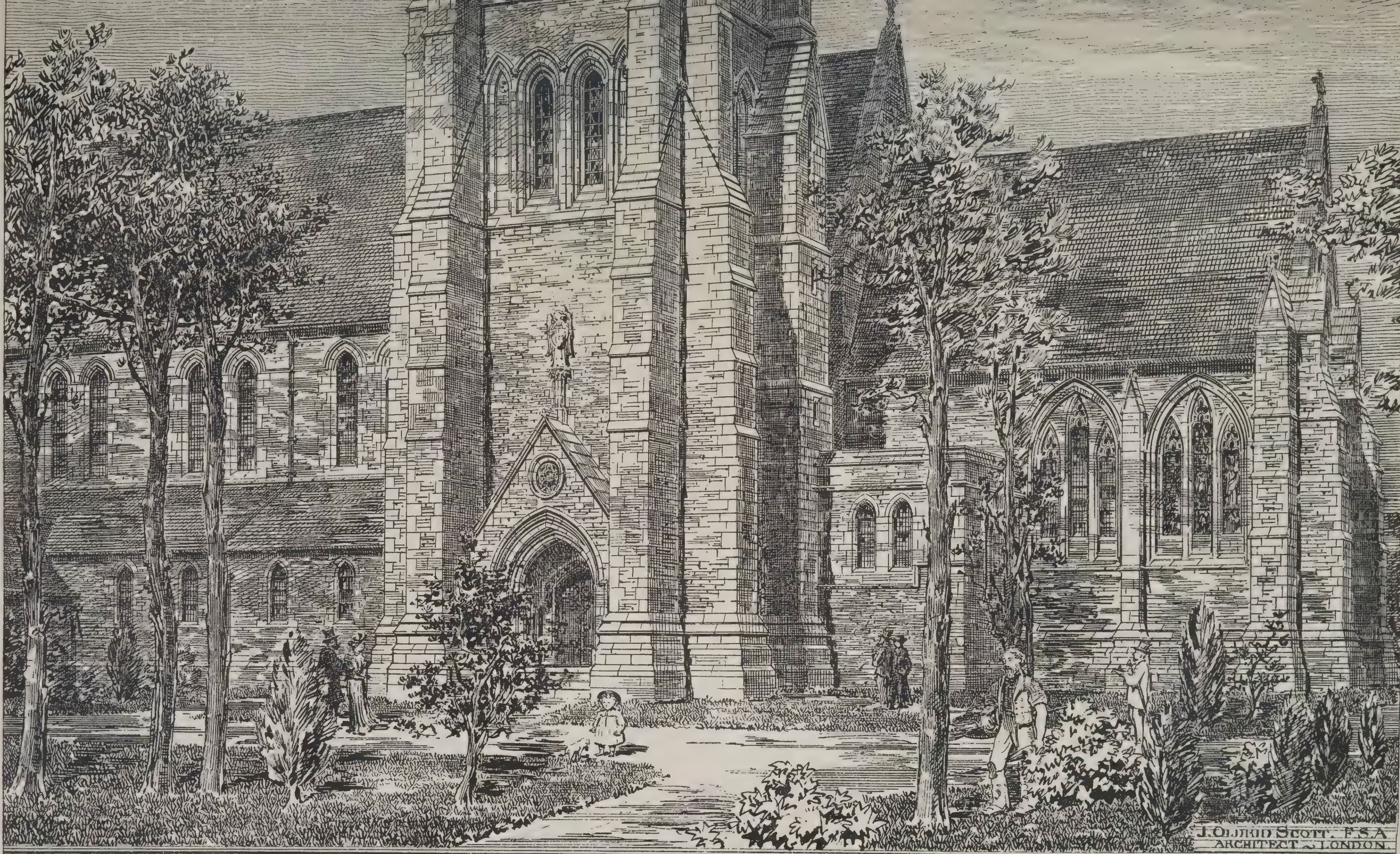
J. Oldrid Scott, F.S.A.
Architect ~ London.

S: Michael's Church: Bournemouth: Proposed Tower:

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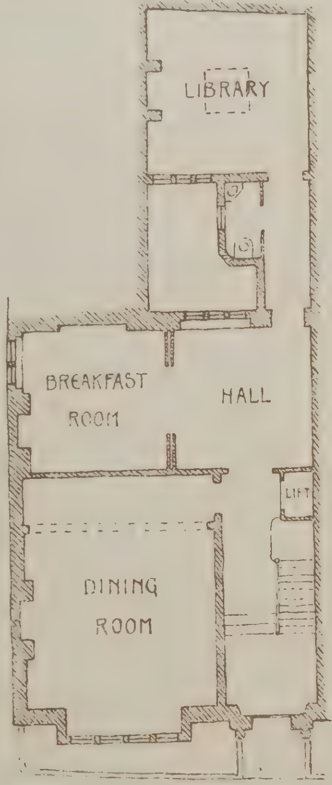

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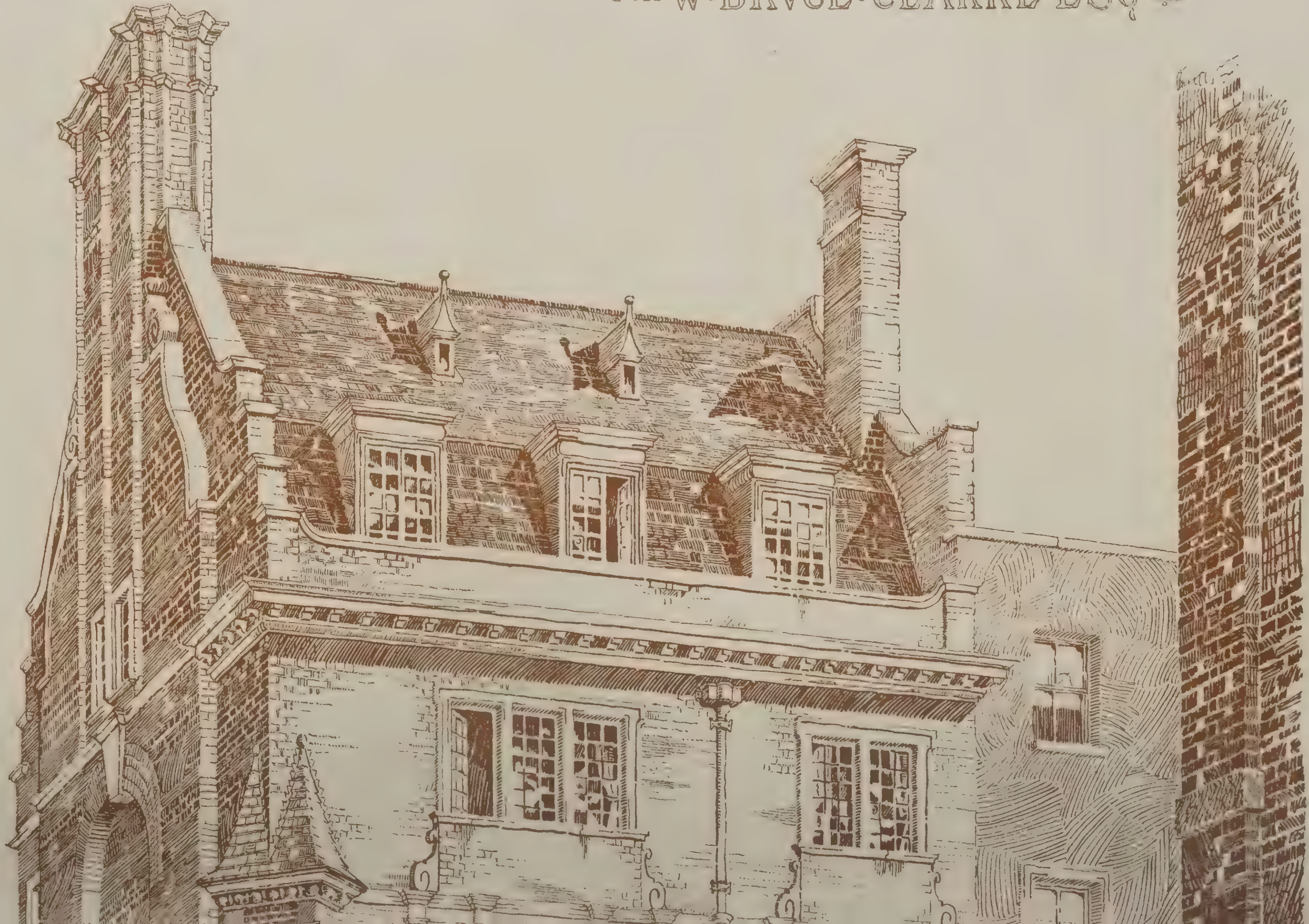

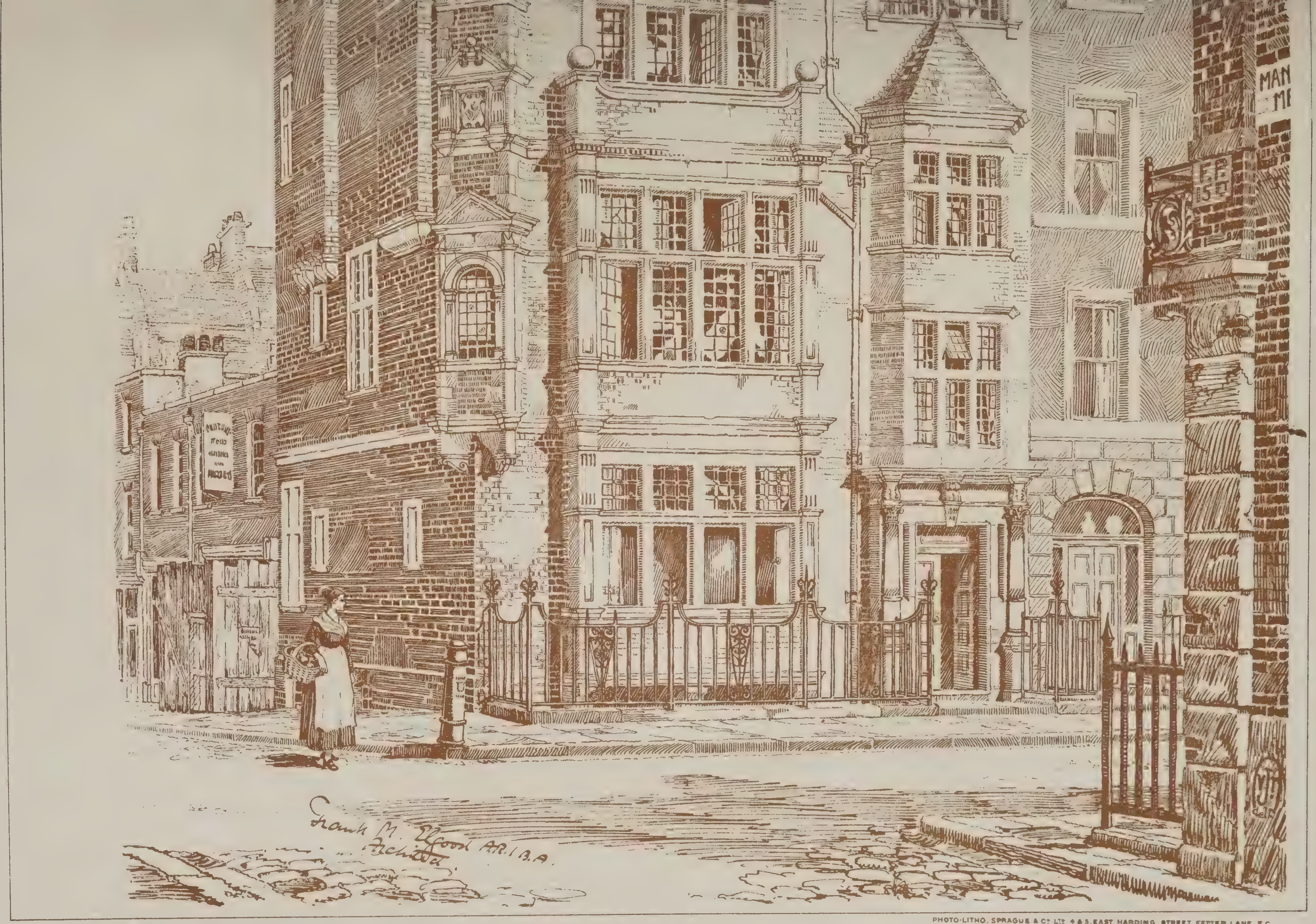

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The Architect.

THE WEEK.

Students of political economy, no matter to what school they may belong, must be acquainted with the name of Jean Leclaire, the Paris house-painter. He was the first employer in modern times to make the experiment of sharing his profits with his workmen, and in that way the position of the labouring classes was elevated. John Stuart Mill accordingly gave much attention to the experiment, and Leclaire's name is respected by all economists whose conclusions do not constitute a dismal science. In England similar experiments in co-operation were not successful, for the workmen who were shareholders became greater tyrants than ordinary capitalists. Leclaire's men realised they were pioneers of a new movement, so they not only worked well, but there was agreement among them. The business which Leclaire founded is now carried on in Paris by Ridouly, Valmé & Co., but it is still known as the Maison Leclaire. On Sunday next the centenary of the birth of the founder will be celebrated in the great amphitheatre of the Sorbonne, at which many members of the Government will assist. Leclaire deserves to have his name held in honour, for by his example he was a benefactor to the building trades in other countries besides France.

The indefiniteness of the meaning of 30 feet as applied to a house has received another illustration in the City Sessions of Dublin. A bricklayer who was employed two months ago to fix ventilators on the roof of a police-station fell from a ladder and broke his wrist. Accordingly he sought compensation. The builders pleaded that the station was not 30 feet in height, and it was admitted that the building itself was only 28 feet high, but if the chimney were included the height was over 32 feet. The Recorder took time to consider his judgment. Afterwards he came to the conclusion that the building was over 30 feet in height within the meaning of the statute, and awarded compensation to the extent of half plaintiff's wages until further orders.

It is difficult for a stranger to understand under what conditions a *médaille d'honneur* is awarded in connection with the exhibitions of the Salon. Occasionally the distinction may be won by a work of art exhibited in the same year. But when it is found that an artist whose latest work is not remarkable obtains a medal, it is evident the jury must have taken into account some of his former efforts. This year in the sections of painting and sculpture there will be no award of medals, for in neither case was the requisite majority obtained. In the first voting of the painters MM. Gabriel Ferrier, Henri Martin, Wencker, Busson and Joseph Bail were most favoured. In the final trial the numbers were M. Ferrier 151, M. Martin 51, M. Wencker 29 and M. Bail 15. As there were 342 painters who voted, M. Ferrier did not obtain the necessary majority, and the voting was therefore fruitless. There were 181 voters to represent the sculptors. At the first turn M. Soulès obtained 32 votes, M. Becquet 22, M. Morice 19, M. Moucher 10; at the second turn the voting was M. Soulès 49, M. Becquet 31 and M. Morice 17. No sculptor therefore possesses the *médaille d'honneur* of 1901, although as usual some excellent works are to be seen in the exhibition. In the section of engraving M. Mongin secured 32 of the 63 votes given, and therefore won the coveted privilege. The architects have still to vote.

A sandy plain would not be thought likely to be productive under archæological investigators. But there is a district of the kind near Khotan, in East Turkestan, known as Takla-Makan, which promises well if it were systematically explored. In 1866 Mr. Johnson ascertained that the inhabitants occasionally found in the sand objects of gold. That intelligence was subsequently confirmed by Mr. Forsyth, for he saw coins, fragments of glass and even a little statue of Buddha which had been discovered. But owing to its remoteness and the danger of making a journey to the heart of Asia, Takla-Makan was long neglected. In 1879 Regel, the botanist, came across the remains of a town. Other discoveries were subsequently made by Hadin and Hogberg. In 1892 a Russian archæological expedition visited the place, and found a great many remains of houses and villages as well as of Buddhist cloisters and temples. In some of the Buddhist abodes traces of painting in distemper on the walls were seen. The subjects related to the Buddhist legends. It is evident they excited the fury of Mohammedan invaders, and were nearly all obliterated by them. There were also inscriptions on the walls in several Eastern languages. Fragments of old manuscripts were discovered by the Russians and of books which had been printed from blocks. The bark of trees was used for some of the manuscripts. The language employed is generally Sanscrit. Having succeeded so well the Russians should continue their investigations. But archæology is not much prized by their statesmen who deal with the Eastern question. The latest explorer, Dr. Stein, has been more fortunate than his predecessors, for he has been able to reveal many examples of stucco sculpture also relating to Buddha, but which were produced evidently under Greek influence. He is taking photographs of all the remains he was able to remove.

Italy has long had a reputation for the production of antiques, and it cannot be said the operatives at the present day are less dexterous than their predecessors. We suppose there is no museum of any importance in the world which is free from examples of these modern antiques. But as there are always exceptions to general laws, sceptics were warranted in expecting that one of the State museums in Rome which was organised by the Italian Government was safe from forgeries. The contrary is the case, for it has been admitted that the collections of Etruscan remains which can be seen in the Villa Giulia in Rome never came from Etruscan tombs. A work was brought out by the Government in grand style, with illustrations of the principal objects, but they only served to raise suspicions about the genuineness of the contents. The Minister of Public Instruction, who was annoyed by the doubts which were expressed by archæologists in various countries, appointed a commission to report on the subject. It was no doubt anticipated that approval would be given of all the acts which had been done by Government agents in connection with the collections. But the report demonstrates that the explorations at Nerce in Southern Etruria were not carried out by Government officials, but by two dealers in antiquities. It is also declared that no register has been kept since 1899, and that objects have been removed from the museum as well as added to it. The careless way in which the work was conducted is manifest when it is known that one tomb, which when first opened contained only about a dozen objects, was afterwards said to have yielded no less than thirty-nine. So lax a system of administration must bring discredit on the Italian Government, and no time should be lost in eliminating from the Villa Giulia every doubtful specimen.

It is creditable to France that the interests of art are held to be superior to those of the colonies, and even of officialism. The Minister of the Colonies occupies a building which may be said to join the Louvre. Artists and journalists, as soon as the Minister was in possession, raised an outcry against the danger which arose to the national treasures from having a number of young officials and a constantly increasing stock of documents in their vicinity. All the precautions which could be devised were employed. The clerks had to go through an easy fire drill in case of emergency, and each was provided with a hand grenade and was instructed in the art of throwing it. Still confidence was not restored. M. Bonnat, as representing the artists, declared that the danger of a fire was as great as ever. The Minister of Public Instruction and Fine Arts prepared a Bill for the construction of new offices on the Quai d'Orsay, which will be used by the Colonial Minister and his staff. The plans for the new offices have been prepared by M. Redon. If the Chambers will give the necessary votes the building will be at once undertaken, and before long one source of danger to the Louvre will be removed.

THE LIVERPOOL CATHEDRAL PROJECT.

It is not wise when a project is on the tapis, and for which money is required, to allow too much time to be spent in discussions over details. The Liverpool Cathedral committee therefore acted like men of business when on Monday last they recommended the Bishop of the diocese to adopt the site of St. James's Mount for the proposed building. At the same time they were able to inform his Lordship that the contributions promised towards the work amounted to 125,000*l.* A meeting of the principal clergy of the diocese will be held on Monday next, when Dr. Chavasse will submit the proposals to them. It is not likely there will be any opposition to the recommendations of the committee.

In considering the site, it may be granted that St. James's Mount is only the most eligible which can be obtained under existing circumstances. Liverpool more than any other city in England testifies that there was no time in its growth when the clergy could be said to have possessed any power over its planning. Elsewhere in cities that are ancient, both in England and on the Continent, we generally find that the best site in the town or city was secured for the cathedral or principal church. But in Liverpool it is otherwise. It was not until towards the close of the seventeenth century that Liverpool became a parish. Previously it was no more than a chapelry of Walton parish. The church which was dedicated to St. Nicholas, the patron of mariners, was only a chapel of ease. There was no doubt that from time to time individual clergymen obtained, especially in the last century, much authority. But it was not generally anticipated that Liverpool would become the seat of a Bishop, and no steps were taken towards providing a site that would be worthy of so important a place.

When in 1886 efforts were made to obtain funds for the erection of a cathedral, it was to some extent natural that the clergy should try to ignore the indifference of the past by placing the building in a dominant position near St. George's Hall. Elmes's work is one of the modern buildings which writers on architecture in most languages select as an example of a superlative English effort to revive the antique spirit. As becomes a structure in Classic style, it is of moderate height compared with the majority of public buildings in the city it adorns. To place a towering Gothic or Romanesque cathedral beside it would, no doubt, express the supremacy of ecclesiasticism, but a beautiful work would be sacrificed in order to give effect to the symbolism. In France, and in some parts of Germany, architects would have hesitated to accept any share in the degradation of one of the masterpieces of their art, but, unhappily, in England the conviction is forced on us that the old must give way to the new, and, as well as we can remember, no architect declined to take part in a competition which was not inspired by a love of architecture. Fortunately the lay spirit prevailed, and support was not given in the form of cheques. Dr. Ryle's scheme had accordingly to be abandoned.

More discretion has been exercised in the selection of a site for the building which is now under consideration. St. James's Mount is further eastward, and nearer the Mersey than St. George's Hall, but it is quite possible that if the building should be erected thousands of people will visit Liverpool without seeing the new cathedral. As much can be said about some of the old cathedrals in England, for it is only those who are devoted for the time being to sight-seeing who in all cases become acquainted with important ecclesiastical buildings. This circumstance should be remembered by the committee who have undertaken the work in Liverpool. In Mediæval times travellers believed it was advantageous, in a spiritual sense, to them to visit the cathedrals, for the majority of those buildings possessed relics and other objects which were assumed to bring benefits to all who showed them reverence. But those influences no longer sway the actions of men, and until some remarkable associations arise to give it interest a modern cathedral must depend on its beauty for its attractiveness. For strangers St. James's Mount is not inaccessible. The tramcar system of Liverpool provides an easy means of reaching the district, for three lines are within about 500 feet of it.

There are other advantages belonging to the proposed site which are not without importance in an age when land for a cathedral has to be purchased under similar circumstances with land for a goods station. The freehold is believed to belong to the Corporation of Liverpool, and, according to Mr. Bradbury, the diocesan surveyor, their interests are not worth more than 10,000*l.* All the house property on the ground is expected to be acquired for a similar sum. For the moderate outlay of 20,000*l.* a piece of ground 1,020 feet in length and varying in width from 220 feet to 248 feet can be secured, and it is believed to be sufficiently extensive to serve for such a building as is required. Another argument in its favour is that the foundations of the building would rest upon rock, and the stability of the cathedral would therefore be assured without extraordinary expense. On the whole the selection of the site is creditable to Mr. Robert Gladstone and his friends. When we know that the Dean of Ely proposed that the Dock Board of Liverpool should present one of their docks to the Cathedral committee for a site, and that other solutions no less visionary have been offered, it is well to have a scheme in which questions of cost and suitability of the soil are respected.

There are also notions abroad about the cost of the work which are quite as remote from actuality. The Bishop of Liverpool estimates the amount of money that will be needed at 500,000*l.* The sum is not excessive for the creation of a building which while it endured would be creditable to the people of Liverpool who lived in the beginning of the twentieth century. Experience derived under the modern conditions of building is not of much avail in such a case. It is true that in recent years three cathedrals have been raised, in Cork, Edinburgh and Truro. All are of limited capacity if tested by the requirements which must be provided for in Liverpool, where it may be assumed a large proportion of the inhabitants, if not the majority, would be favourable to cathedral services. It is no disrespect to say that in Cork and Edinburgh the cathedrals serve for a sect, while in Truro the congregation who can join in worship is limited, and as they are scattered the building is seldom filled. Cheap cathedrals cannot be approved unless in new countries. They are intended to express the generosity of the inhabitants of a diocese, and that cannot be accomplished if the expenditure has to be doled out and the inspirations of the architect have in consequence to be sacrificed. In Liverpool there should be no difficulty of that kind. The city is supposed to possess many millionaires, but only five, with the Earl of Derby, have answered the appeal to them with promises of 10,000*l.* There are undoubtedly many demands at the present time for subscriptions, but the claims of the cathedral should not be underrated by those who can be munificent without much self-sacrifice.

Assuming that sufficient money can be calculated on the question of design should not be long delayed. Since 1886, when the former competition took place, it cannot be said that architecture has declined in character in this country. The committee will, of course, be as prudent in dealing with this question as they have shown themselves in the recommendation of a site. It is possible that Bishop Chavasse has a theory of the uses which a cathedral should serve which differs from Bishop Ryle's. Moreover, the conditions of the site do not correspond. To return to any of the designs which failed to impress the people of Liverpool fifteen years ago would not be sound policy. The cost of premiums in a new competition will be insignificant if compared with the outlay which must be undertaken, and Liverpool as a progressive city should, even in church building, represent whatever is most modern and fitting in architecture. If a new competition should fail to bring forth a design for a building that of its kind would be comparable to St. George's Hall, it would then be time enough to fall back on the designs of 1886.

The Royal Society of British Artists, at their Council meeting on Monday last, elected the following as members :— E. W. Davies, H. C. Chadburn, J. E. Goodall, J. M. Borglum, Shirley Fox, J. D. Fergusson, John W. Allison and Carton Moore Park.

AN EIGHTEENTH-CENTURY AMATEUR.

In the eighteenth century French artists and amateurs were unwilling to admit that art existed in England. The reputation of Hogarth, Reynolds, Gainsborough, Wilson and others was not strong enough to pass across the Channel. The pictures of Constable at a later time were to many Frenchmen the first revelation of the existence in England of a painter who possessed originality. The naïve exclamation of Meissonier when he saw Millais's *Yeoman of the Guard* is sufficient to show how even in the middle of the nineteenth century the progress which art had made in this country was discredited. One of the consequences is to be seen in the inadequate works which are supposed to represent English art in the Louvre. In the eighteenth and the beginning of the nineteenth century English paintings could be obtained by a small outlay, but the French Government and the custodians of the Louvre hesitated to expend money on objects which, as they supposed, would be of no advantage to their countrymen. One of the reasons for the neglect was the absence in England of any organisation for teaching art. The French possessed various academies for over a century, and it seemed to them impossible that art could exist in a country which was without any means of education for young artists, and where older artists could have few opportunities of drawing and painting from the nude and of holding discussions on painting, sculpture and architecture.

One of the consequences of Sir Joshua Reynolds's discoursing at the Royal Academy was to compel some foreign artists and amateurs to become rather doubtful of their sweeping assumptions about the non-existence of art in England, and the impossibility that it could thrive in a country which was notorious for its fogs and the spleen of its inhabitants. The prejudices were not, however, immediately dispelled. When James Barry, R.A., wrote his "Enquiry" in 1775, that is, six years after the opening of the Academy, he was unable to refer to a single French author who had shown the least recognition of what was being done in England, while it was easy to cite statements by such law-givers as Montesquieu and Dubos, amateurs who considered it was hopeless to expect any form of art that was good to come out of the British Islands. It shows, therefore, remarkable courage when in Watelet's "Dictionnaire des Arts de Peinture, Sculpture et Graveur" long extracts are given from the English President's "Discourses," and occasionally whole articles can be credited to Reynolds. It is true that Watelet died before the work was ready for the printers, and only one half of the first volume is his unbroken composition. On the other hand, although the dictionary is arranged in alphabetical order, he was not particular in following out that sequence, but took up subjects as they attracted him. His articles are to be found in all the volumes. Levesque, Robin and others who co-operated in the completion of the work, must have acted, however, in the spirit of the originator, and in that way we may safely conclude that Watelet is entitled to have the credit for being the first foreigner who realised the golden canons which were to be drawn from the discourses which Reynolds gave, and which were not obligatory on him by the terms imposed by George III. On that account, and it may be for other reasons, some notice of a man whose name is not preserved even in his own country will not, we hope, be unacceptable.

Claude-Henri Watelet belonged to a class that was generally regarded as being more distinguished for love of gold than for love of the beautiful. Like his father, he was Receiver-General of Finances, and those officials were so exacting and pitiless, they are generally considered to have been among the principal causes of the French Revolution. As his mother was the daughter of a Farmer-General of Taxes, it might be prophesied with some reason that he was destined to be rapacious. But nature, like Watelet in composing his dictionary, does not always follow the order that is assumed to be inevitable, and from his childhood he appears to have possessed all the qualities of the genuine amateur. He was born in Paris in 1718. In his childhood his health was feeble, and it was concluded that it would be well to spare him many of the labours which were inseparable from the educational curriculum of those days. It was evident he was endowed with unusual sensibility, and the study of art was taken to be best suited to his disposition. When he was old enough he was sent on the Grand Tour under the care of a physician, and in course of time was able to reach Rome. Pierre, whose name is now forgotten, was then first painter to Louis XV. He lived in the Eternal City, and was glad to have so young and ardent a pupil. Watelet was allowed to have access to the French School, and accompanied the students in all their explorations. The works he principally studied were those of Michel Angelo and Raphael. Nature had also graced him with poetic talents which he utilised in translations and adaptations of Tasso and Ariosto. He delighted in illustrating his favourite poets, and the goal of his ambition was to be a painter-poet rather than an official financier.

After the period assigned for his studies had ended he returned home. It is not difficult to imagine what welcome awaited a youth in Paris who was supposed to have surpassed all his contemporaries in the genius which then found favour in salons, and who was one day to have the resources of a Receiver-General at command. Watelet could discourse with brilliancy on all the arts; he could design, paint and etch; he was able to compose songs and dramas, and the *grandes dames* of those days found an intellectual enjoyment with him which no *petit maître* could furnish. There can be little doubt that he wasted his genius for the amusement of the fashionable society of the time. Instead of producing some great work for which his wealth would be an auxiliary, he is now only known by fragments which the world is too busy to preserve. He made one attempt to prove his inspiration, learning and mental *longue haleine* in a poem on the art of painting. It was a subject suitable for an ambitious amateur, for it could embrace everything in nature that was visible, as well as the history of men; in fact, it was inexhaustible. Watelet described in good set verse the proportions of the human body, the manner of representing attitudes, the grace required in contours, the laws of perspective, the colours to be employed, &c. Designs were as needful as rhymes, and his representations of such scenes as the "Parting of Hector and Andromache," the "Victory over Porus," the "Attributes of Homer's Heroes," &c., were much admired by the author's friends. The works of great masters were introduced and explained. Men like Da Vinci, Titian, Domenichino and Lebrun were utilised as if they were *dramatis personæ* to express their views on art. It is hard, however, to write a technical treatise in rhyme, and it is evident Watelet was of opinion that he would have been more usefully employed if his remarks on art had been uttered in the charming prose of the eighteenth century. Accordingly "L'Art de Peindre" became "Dictionnaire des Arts," a work, however, that he was not to complete. Another unfinished work by Watelet treats of the origin and destiny of the liberal arts, in which all their relations were to be investigated. We cannot tell what was the destiny which he believed awaited the fine arts. But he derived their origin from an endeavour to imitate the actions or pantomime of men or animals.

The latter treatise obliged him to make another journey to Italy in order to study works of art under new conditions. He was looked on as in some measure a product of the South, and wherever he went he was received with becoming respect. But above all the honours which he received from princes he probably valued his readmission into the French School, where he was fêted as if he were one of the great artists of France. Nor did he neglect his favourite poets. He made complete translations anew of Tasso and Ariosto, but as he was dissatisfied with his versions he attempted to imitate both, a task for which Marmontel considered he was especially suited, for no man of letters at that time had more deeply studied the Italian poets or was more susceptible to their beauty. Subsequently he published a few of his theatrical pieces, some of them having an antique legend as their subject. In 1761 his literary reputation obtained for him admission to the Académie Française. Among the immortals he possessed several friends, and to show his affection for them he drew and engraved their portraits. His etchings were numerous, and nearly 100 are known to amateurs. Watelet was a follower of Epicurus, and like a philosopher he created for himself a little earthly paradise on the banks of the Seine. If we may judge by the descriptions it was more in the English than in the French style. The Abbé Delille, in his poem on gardens, says of it:—

> Ton art la féconda ; non cet art imposteur,
> Des lieux qu'il croit orner hardi profanateur.
> Digne de voir, d'aimer, de sentir la nature,
> Tu traites sa beauté comme une vierge pure
> Qui rougit d'être nue et craint les ornemens.

In his mansion and garden he led a happy life, and there was no lack of friends to partake of his enjoyments. Unfortunately he was not successful in some of his speculations, but he never lost the confidence of people of his own rank in his probity. He became unable to aid young artists, and that was his principal privation. His last years were rendered less weary by the practice of the arts; he drew, etched in Rembrandt's style, modelled in wax, and when his hand lost its dexterity he was able to turn over the contents of his portfolios. Watelet died in 1786.

He has left on record his notions of the functions of the true amateur. Many a man, he says, is called amateur and connoisseur without any more right to the title than some counts and marquises. A century earlier amateurs were rare, but in Watelet's time they were over-numerous, and he believed they contributed to the corruption of the arts. Some among them possessed collections which they made a pretence to admire when they received visitors, but when alone they were as indifferent to their treasures as those married people who were most edifying examples of affection before company, but in private resigned themselves to be frozen by indifference and *ennui*. Fortunately there were amateurs of a different kind then living in Paris, such as MM. Mariette, De Niert, Calviere, Caylus, &c., who were worthy successors of the De Piles and Félibiens of an earlier period. There were ladies also who, according to Watelet, found in the practise of the arts a preservative against the ascendancy of dissipation.

For those who aspired to be amateurs in more than name Watelet recommended instruction in drawing and painting, in order to discover how much labour is essential for the production of a picture. The study of the works of great masters should also be undertaken in order to enforce the same lesson. The tyro is advised to be silent or restrained in his criticism when in public galleries, for beside him may be a painter's apprentice "barbouillé de sanguine," who laughs at the remarks and it may be attempts to make a caricature of the critic—a picture of manners which suggests the constant spirit of the French "rapin." As a consolation Watelet informs his friend that a gentleman can possess the judgment required for the magistracy, the virtue of the ecclesiastical state, the courage of a cavalier, the erudition of a scholar, the rigour of a geometrician, the talents of a poet or an orator, and even the coveted *bel-esprit*, and yet be deprived of all the dispositions and acquirements which constitute the amateur and judicious connoisseur of painting. An adviser who was so exacting could not be much admired by contemporary amateurs. Professional artists, on the contrary, objected to his advice because it was too timidly imparted.

We can obtain a slight notion of Watelet's manner of treating subjects in what he says about the introduction of buildings in paintings. As we have already mentioned, he considered that pictorial art originated in an endeavour to represent action. On a similar principle he explains the preference given by painters to ruins over buildings which are in a perfect state The former, whether palace, temple, or cabin, exemplify an exercise of force or action which has brought destruction, and the simplest cabin may be made to appeal more strongly for pathos than a grand edifice. The latter may be too uniform in perfection to suggest the influence of time, and be wanting in the picturesque accidents which are generally admired. In addition, the lines of buildings in a perfect state are too regular and the colour is too uniform. At the same time Watelet enjoins the necessity for the study of architecture with as much care as he gives to anatomy. His idols, the great Italians, he says, could construct buildings as well as represent them, and in none of their pictures can we see edifices which are non-constructible or which are suggestive of collapse. Many other articles by Watelet are no less inspired by good sense.

JOHN McKEAN BRYDON.

In the *Bath Chronicle* the Rev. W. J. Loftie pays the following tribute to the merits of the late J. M. Brydon as an architect:—

I regret to see by the newspapers that Mr. Brydon died on Saturday, 25th ult. He was only sixty, and all who admired his work might reasonably have hoped he had many years of usefulness before him. My own personal acquaintance with him was very slight. In fact, I only saw him once, when at his request I called at his office or studio in Newman Street to look at the designs for the new buildings in Westminster. On that occasion we formed plans for a visit together to Bath—a visit which, alas! never was made. His son's death, a sad loss, and other circumstances chanced to prevent our ever meeting again, and it was only at the beginning of the present year that I was able during a brief stay to see how much he had done for Bath, and how worthy of her eighteenth-century fame his new work must be deemed. It was not easy, as many had found to their cost, to take up the art of building where the Woods and Baldwin had laid it down. For some reason with which I am not acquainted the revived Gothic of Pugin and Scott never took root in Bath. The two principal buildings in that style, St. Michael's Church in Broad Street and the Roman Catholic chapel in South Parade, are in very conspicuous situations and act satisfactorily as foils to the fine old tower of the abbey in its well-proportioned dignity. But when Brydon went to the rescue Bath was in danger of becoming a prey to what we in London know as the South Kensington style. In the colonies they call it "the Exhibition Building" style; at Manchester it does duty as Gothic, because there they point the arch. In Bath I think it was known as Romanesque, and they did not point the arch. But it was everywhere the same, anomalous; and it would have been nothing less than a public misfortune—a misfortune that is not confined to Bath, but to be regretted by all England —if it had succeeded to any great extent in affecting the general view of your most beautiful city. From this danger Brydon saved Bath. We are all liable to what our religious teachers call "declension." The learned style implied both incessant care and incessant improvement. No other art can be overlooked or neglected by the architect, and if to his knowledge he can add a little classical learning so much the better for his designs. This implies taking pains, and no "declension" can be allowed. It is all, to use another comparison, "collar work" As distinguished from anomalous building, or even the Gothic of Street and Burges, the Palladian architecture of Inigo and Wren, of Wood and Chambers, can never become common. Mr. Norman Shaw first expounded it to the architects of the nineteenth century, and of all those who have followed him John Brydon will always be reckoned the foremost.

It is sad to think how long he worked without recognition. He had attained a success in the estimation of many who were practical workers in the same field as far back as 1870. But there he remained. Younger men came to him for counsel and passed him in the race, and at forty-five the general public had heard little or nothing of him. An opportunity came when he made his exquisite designs for Whitefield's Chapel in Tottenham Court Road. Other counsels prevailed. After unaccountable delays, most wearing to a sensitive mind, the present pagoda was preferred and erected, and London lost the offer of a beautiful building. But his designs had been published and all the more learned of the art critics knew that when a better opportunity arose the man to answer to it would not be wanting.

That chance came when you in Bath determined to improve your municipal buildings, by which I mean not your Guildhall alone, but the rooms adjoining your warm springs, the old Roman bath—the great glory of your ancient city. A similar chance occurred some time before to the people of another old Roman town, remarkably like Bath for beautiful architecture. If any of your citizens would see and judge for himself how well Bath fared in this respect at the hands of John Brydon, let him in his next continental tour visit Nîmes and see how the French architects have treated the ancient remains at La Fontaine. The problem was a difficult one. "Restoration," to use in its modern sense a word which has become odious, was not only impossible—that would have been a small matter with Sir Gilbert or Mr. Pearson—but unpopular. As solved by Mr. Brydon the difficulty has but increased the success. Nothing has been falsified. The learned visitor has before him suggestions and reminiscences of the usages described by the classical historians, and at the same time can see how far they were carried out at Aquæ Solis. The unlearned visitor also finds himself interested and unexpectedly informed without too great a mental effort as to what is ancient and what has been added to set it off and preserve it.

Of the new concert-room it is difficult not to exaggerate my feelings of admiration and wonder. I do not think it overstating the case to say that since Sir Christopher Wren built St. Stephen's, Walbrook, no other interior worthy of comparison with it has been erected. Since I saw the concert-room last January I have urged many of my architectural friends to go to Bath. One and all have returned saying what I have just said, and generally adding "without an inch of ornament for its own sake."

The additions to the Guildhall are equally good. Fully to understand and sufficiently to appreciate them it is well to place before our eyes the photographs of what High Street was like before Mr. Brydon came and since. The gallery and library in Bridge Street depends solely, but certainly not in vain, on the delicate proportions; but it would be impossible in a short notice to point out that to Brydon a space of blank wall, carefully and laboriously calculated to a square inch of stone surface, was in itself more ornamental than all the panelling and lattice work on the river front of the Palace of Westminster. Westminster brings me to the last words I venture to offer you now. It should—and will, no doubt—always hereafter be a credit to the people of Bath that Brydon's work here obtained for him the great triumph of his life—the appointment to design the new Government offices. It is no secret that when his name was mentioned the powers that be took the sensible course of sending to see what he had done at Bath, and that it was in consequence of the report returned that he was appointed.

THE ARCHITECTURAL ASSOCIATION.

THE annual dinner of the Association was held on Friday evening last at the Criterion Restaurant, Piccadilly, the president, Mr. W. Seth-Smith, in the chair.

The numerous guests present included Sir George Young, Bart., Major-General Sir H. Trotter, Dr. W. J. Collins, L.C.C., Dr. Isambard Owen, Captain Marling, Mr. W. Emerson, Mr. Aston Webb, A.R.A., Professor T. Roger Smith, Mr. A. W. Soames, M.P. (master, Plumbers' Company), Rev. H. Russell Wakefield, Rev. Dr. G. H. West, Professor F. M. Simpson, Professor Hulme, Rev. J. H. Webb, Mr. R. M. Beachcroft, L.C.C., Professor R. Elsey Smith (vice-president), Mr. W. A. Pite (vice-president), Mr. John Slater, and Messrs. F. T. Baggallay, J. H. Colls, G. L. Gomme, W. J. Locke, H. Tanner, sen., J. Osborne Smith, Clyde Young, E. S. Prior, H. T. Hare, G. B. Carvill, G. Sherrin, F. D. Clapham, J. W. Denington, Harrison Hill, J. H. Shearer, A. S. Tanner, J. E Franck, A. J. Dalton, C. Brée, A. Stratton, W. G. B. Lewis, G. Bailey, G. M. Nicholson, F. N. Reckitt, S. Constanduros, R. Dircks, F. Care, H. W. Hollis, F. W. Macey, H. Dru Drury, H. C. Eyres, J. E. Forbes, A. Hands, T. F. Green, A. W. Earle, W. A. Webb, A. Potter, A. H. Hart, E. Guy Dawber, A. T. Bolton, R. W. Schultz, F. T. W. Goldsmith, T. C. Yates, L. Ambler, F. G. Hooper, F. W. Pomeroy, H. L. Anderson, Owen Fleming, N. F. Barwell, H. D. Wilkinson, A. E. Murray, G. Watson, E H. Parkes, W. E. Davis, J. Murray, R. E. Bartlett, W. Woodd Smith, D. Seth-Smith, R. S. Balfour, H. P. G. Maule, H. G. Tayler, R. H. Weymouth, E. W. M. Wonnacott, W. A. Forsyth, J. D. Forsyth, J. F. Bull, M. Garbutt, H. A. Satchell and D. G. Driver, secretary.

The toast of "The King and Royal Family" was followed by the President's next proposal, "The Church and Legislature." The Rev. H. Russell Wakefield, in responding for the Church, said there were many debts owed to architects by the Church. In the indifference to architecture, especially by the laity, there was little hope of modern church architecture being able to equal the styles of older times. The gratitude of the clergy to the architectural profession was, however, very great. A preacher could often be influenced in his sermons by his surroundings, and a well-designed church very often meant good sermons.

Mr. A. W. Soames, M.P., replied for the Legislature. He said art was not represented in the House of Commons, or very little; he believed he was the only person in the House who represented art in any degree at all. This was a reflection on the nation. Art in this country seemed independent of all assistance from Governments, whereas abroad encouragement was given by the State, and their schemes were successful. It would not be well to advocate a ministry of fine art. In late years the legislature had shown some improvement in the treatment of art questions. The buildings to be erected in Whitehall were good examples of a Government plan. In such schemes he believed it was best to select one man and allow him a free hand in his design. Speaking of Government work reminded him of the regretful and sudden death of Mr. Brydon, whose designs were so good. In conclusion, the speaker said it rested with the profession to use their influence with the public to bring about a healthy appreciation of what art really meant. It could not come from those who were not artistic themselves. An artistic public meant an artistic legislature.

Mr. John Slater gave the toast of the "Army and Navy." Major-General Sir H. Trotter responded.

Mr. F. T. Baggallay proposed the combined toast, "The Royal Academy and the Royal Institute of British Architects." These two bodies, he said, were the guiding lights of architecture. The Academy on the æsthetic side, and the Institute in its examinations on the broader and more practical one.

Mr. Aston Webb, A.R.A., who responded, said there was one subject which the Academy and the Association had equally at heart—the education of students. The education scheme of the Association in the opening of day classes, he thought, would be a success. The scheme would not in itself make good architecture. But good architecture was founded on knowledge, and no one would deny that knowledge was as essential to progress in architecture as in any other subject. The chief danger was that so many bodies were starting architectural courses. If they could be concentrated they would do good. Although as an Associate of the Royal Academy he had nothing to do with their system of training, still he would like to see the schools of the Academy and the Association working together.

Mr. Wm. Emerson, in responding for the Institute, alluded to the new educational movement of the Association as one worthy of commendation. Study in schools was requisite for men to obtain proper facility of expression in their work. The responsibilities of the architect were great, and he had to work both quickly and thoughtfully. The new step of the Association was one in the right direction, and in the new century it would confer great honour on the art of architecture.

Sir George Young, Bart., proposed the "London County Council," and in referring to art, said no great work could be accomplished unless it appealed to the imagination. He hoped the London County Council would show them this characteristic in the great metropolitan improvements they were undertaking.

Dr. W. J. Collins, L.C.C., ably responded.

Mr. W. J. Locke proposed "The Architectural Association."

Mr. H. T. Hare, who responded, said the Association, of all bodies, was the best able to give students a methodical and systematised training. The schools of the Association were almost entirely under the direction of practising architects, and as the organisation of the new scheme had exercised the minds of the Association for many years, they were hopeful of its success.

The President also responded.

Professor Simpson proposed the toast of "The Lecturers and Instructors."

Professor F. E. Hulme responded.

Professor T. Roger Smith submitted "The Guests."

Mr. G L. Gomme and Dr. Isambard Owen replied.

The last toast, "The Committee and Officers," was proposed by Mr. F. T. W. Goldsmith.

Mr. G. B. Carvill responded.

Songs and musical sketches were given between the speeches.

EAST RIDING ANTIQUARIAN SOCIETY.

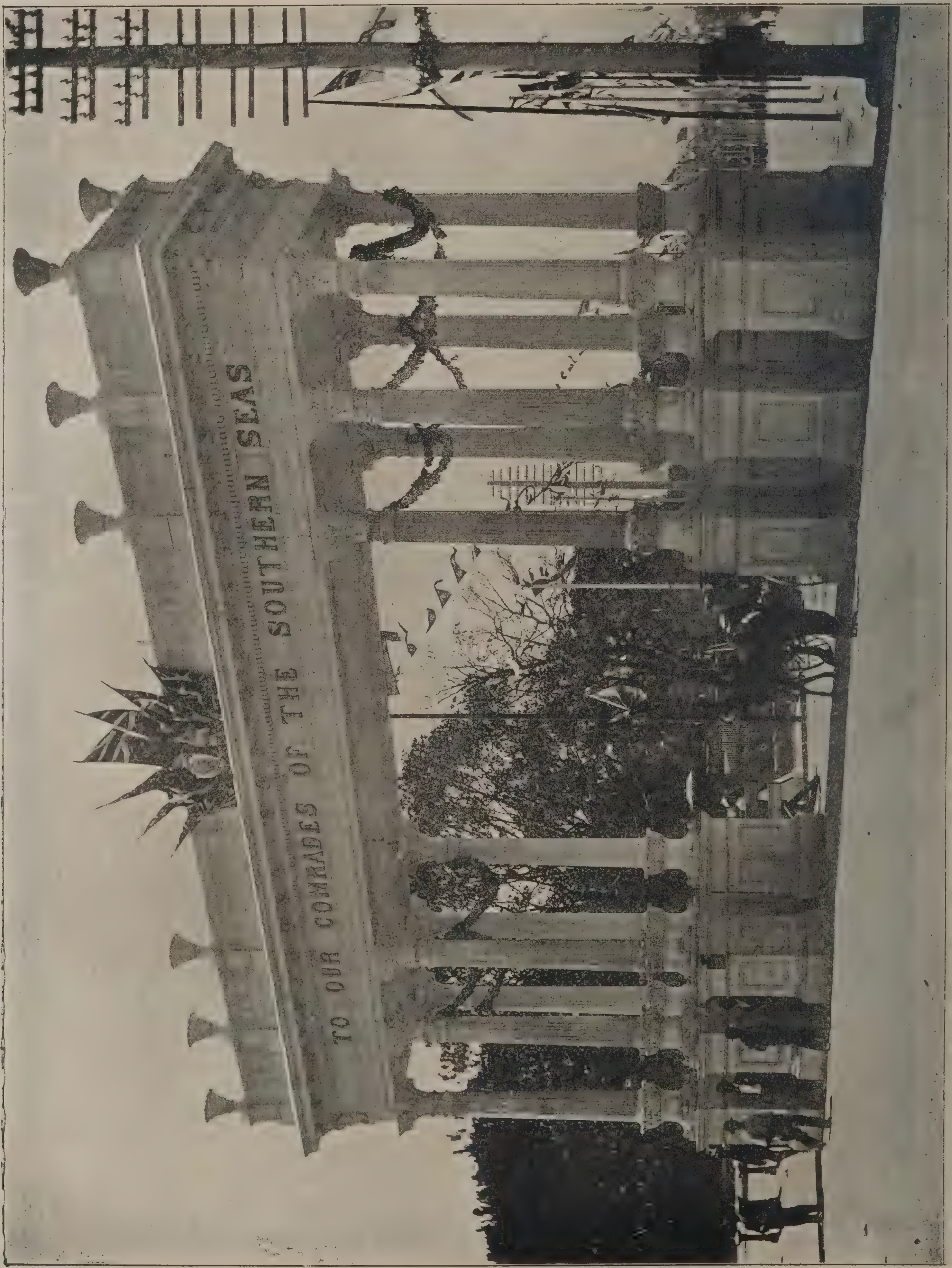
THE first summer excursion of the above took place on the 30th ult. Bridlington was the place of meeting, and nearly forty members assembled there. The weather was beautiful, and the party proceeded in brakes to Ulrome, where Mr. Thos. Boynton, who discovered the lake dwellings there in 1880, gave an account of it to the company. It arose out of the deepening of the Barmston drain, when a number of piles and cross-beams were unearthed. Mr. Boynton applied first to General Pitt-Rivers, Sir John Evans and other well-known antiquaries, in the hope of inducing one or other of them to undertake the work, but as no one seemed inclined to do so, he undertook to do it himself. He found the upper and lower platforms on which the dwellings had been laid, and he showed the members a number of beams lying at the bottom of the drain to this day, which had been placed there by those who formed the lake dwellings. A number of these beams had been taken up, and most of them showed they had been tooled by stone implements, but a few bore unmistakable signs of bronze axes, and that fixed the approximate date of the dwellings, the age when stone was giving place to bronze. They had to think of Holderness as being composed entirely of islands and lakes; indeed, the farm adjacent to the dwellings is called Goose Island to this day. The barughs or hills were thrown up for the pasturage of their cattle, and when danger threatened they made for Skipsea Brough, on the summit of which they encamped till the enemy departed. On leaving Skipsea the party drove to Barmston, where the church and old hall were visited. The latter is one of the few fifteenth-century houses left in Yorkshire.

The Florentine Goldsmiths have erected a fountain on the Ponte Vecchio as a memorial to Benvenuto Cellini. A bronze bust of the artist surmounts the structure, which is of marble.

THE SYDNEY CELEBRATIONS.

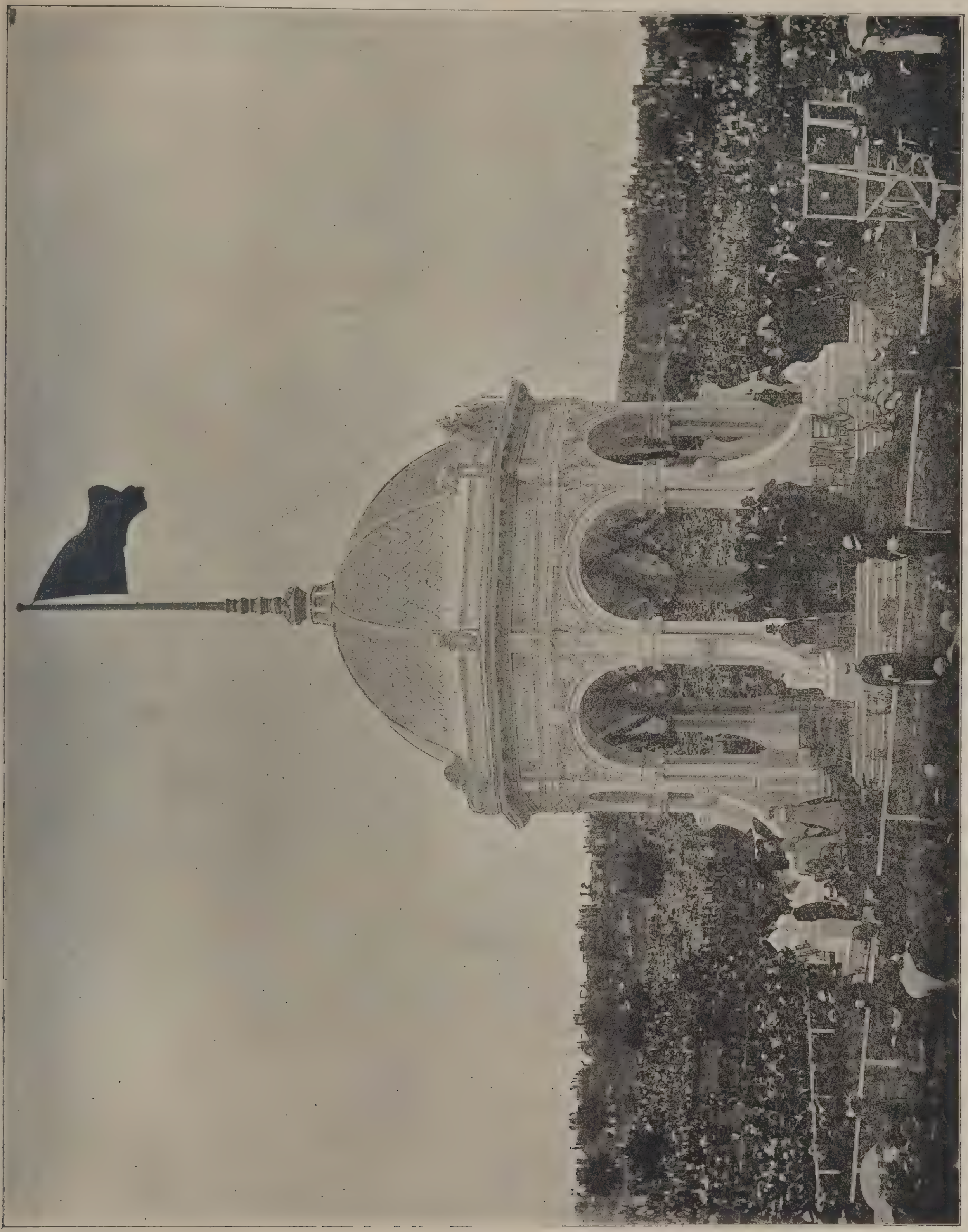
It is generally admitted by historians that the fêtes which took place in Italian cities were of the greatest importance in promoting all varieties of art. An impulse was in that way given to life which for the moment appeared to be less prosaic than before, and endeavours were made to preserve what many would call an illusion by introducing beauty in numerous forms and under more permanent conditions. The experience of Italians, and we may add of Frenchmen and Germans, should not be lost to us. It is a very old allegation against the English people that they take their pleasures sadly, but anyone who witnessed some recent celebrations in London and was unprejudiced would be disposed to come to a different conclusion.

If in the dim atmosphere of London we can rejoice like people in foreign cities, it is not extraordinary that beneath the clear skies of Sydney enthusiasm should reach a standard higher than was ever known in England. The federal fêtes, of which the structures we illustrate were a product, were equalled if not surpassed by those which expressed the joy of the people at the visit of the Duke and Duchess of Cornwall. When it is known that the architects of Sydney can design temporary triumphal arches the people will no doubt realise that they are no less competent to show their skill in permanent buildings. It is generally admitted that the public buildings



OLONIAL ARCH,

of Sydney are most creditable, but the mercantile buildings and the private houses are not always as pleasing as could be looked for in a city which has so prosperous a future before it. All who desire to see Australia advancing must wish that not only in Sydney but in the other cities which constitute the Federation, there will be a more universal recognition of the advantages of architecture, which has always been one of the strongest aids to progress.



PAVILION FOR TAKING THE OATH.

DISTRICT SURVEYORS FEES.

A case under the London Building Act (District Surveyor of East Hackney (South) and North Bow *v.* G. S. Shaw) in which the owner was held liable for district surveyor's fees and definition 5 (33) was heard at the North London Police Court before Mr. Fordham on the 24th ult. Mr. Payne, the district surveyor, explained that he found a stove fixed in the house in a dangerous way, and served notice on the occupier to amend it. It was amended. He then applied to the occupier for a fee of 10*s*. for fixing a stove for trade purposes. Meanwhile the occupier left and could not be found. He then applied to the owner (the defendant), who admitted he was the owner, but said that he knew nothing about the stove. The district surveyor claimed under section 154. The case was adjourned seven days in order that the magistrate might consider it.

Mr. Fordham delivered judgment in the case on May 31. He said he felt it was a case that pressed rather hardly on the defendant, but he had examined the sections in the Act and cases bearing on the point and come to a definite conclusion on the case. He recounted the facts as above stated, and said that there was no builder in this case, but Section 5 (33) stated that where no builder was employed the owner becomes the builder. He therefore gave judgment that the fee of 10*s*. was due and 13*s*. costs.

The Surveyor remitted the 10*s*. awarded for his attendance under the circumstances, and 13*s*. was paid by the defendant.

NOTES AND COMMENTS.

In the course of the debates on what is called the Associations Bill in the French Parliament, the property of the religious orders to which the enactment is to apply was only considered in its capacity to be sold or transferred like ordinary houses. Several of the most distinguished French architects and contractors, with M. Daumet at their head, have protested against an enactment which is likely to have an injurious effect on many buildings which are triumphs of architecture. Their petition to the Senate states that in the past the religious orders covered France with monuments which are a national glory. In modern times their successors have raised buildings which are often remarkable and are always useful to the country, for they are generously opened to the poor and suffering. The efforts to meet new wants necessitates new structures, and the entire "corporation du bâtiment," as well as the numerous workmen employed, in that way procure a considerable amount of work every year. The architects and contractors, inspired by gratitude and admiration for the architectural work accomplished by the religious orders in the past, and anticipating, as they are justified, a not less glorious and profitable future for all concerned in building, and being assured that even the partial destruction of the religious congregations would inflict an irremediable injury on their art and business, therefore implore the Senate to reject the project of law relating to associations. It denotes great courage among architects and contractors when we find them coming forward at such a crisis in support of men who are obnoxious to many of the Parliamentary representatives of the country. But much is owing to the successors of those who supported architecture with so much zeal in the Dark Ages.

Quatremère de Quincey brought out an elaborate treatise on the chrys-elephantine statue of *Zeus* which Phidias wrought. But from the account given, the cost of the Greek work was perceived to be enormous. So far as is known, the first modern amateur who was bold enough to disregard expense was the Duc de Luynes. He gave a commission to Simart, who some sixty years ago was held to be the most spiritualistic of all the French sculptors. He produced a *Minerva*, which is to be found in the Château des Dampierre, where it has for a companion the life-sized statue in silver of Louis XIII. No other amateur was, however, encouraged to repeat the experiment during many years. In our time M. Denys Puech produced a statue called *Modern Thought* for an amateur who has never allowed the work to be seen in public. A third experiment has just been made by M. d'Epinay. It is a figure of *Joan of Arc*, who is represented as standing in meditation. It is larger than life. The materials employed are marble, ivory and silver. It is evident, therefore, that the art is not yet extinct. Probably more amateurs would be disposed to possess chrys-elephantine sculpture if they were assured of its endurance. The great work of Phidias became deteriorated soon after its completion, and the descendants of the sculptor were for generations its conservators. Whether the two modern attempts have also to be repaired from time to time is not commonly known.

The theft of masterpieces of painting cannot be a profitable business. The majority of the valuable pictures which are to be found in public galleries or private collections have been so often described, it is generally an easy task to identify them. The history of their acquisition can also be made the subject of inquiry, and if there is anything obscure in the various transactions which have followed their disappearance from one particular spot, the law-courts of the majority of nations are disposed to have the strictest justice meted out. A case occurred a few days ago before one of the Paris tribunals which exemplifies the modern spirit which prevails among judges and experts. In 1895 a *Danæ* was sold to a lady by a banker in Paris as a veritable work from Titian's hand. The lady, however, disappeared with her treasure without paying for it. On May 4 last the picture was found in the possession of one of the dealers in Paris. The banker immediately applied to the Tribunal of Referees for authority to seize it. It was not difficult for him to prove his ownership, and an order was at once made for the surrender of the picture. Amateurs who wish to form collections should therefore be cautious unless everything is above board in their purchase of works of art. In England a roundabout process would have to be gone through to regain such a work as the *Danæ*, but sooner or later justice would be allowed to prevail.

Further discoveries have been made on the site of the ancient Gordion, which was associated with the famous knot that Alexander the Great was supposed to sever. The work has been carried out by two brothers, Professors Körte, who are Germans. Many terra-cotta plaques have been revealed adorned with figures, and which were supposed to decorate the façade of some temple. There are also examples of pottery corresponding with later Buschero ware. Vessels in bronze, stamps and various other remains have been brought to light. In some of the ancient tumuli small pieces of carved ivory were discovered which may have served for the decoration of a sarcophagus. Gordion is a remote place, and has consequently not secured the interest it deserved. Professors Körte appear to have done much, although they were possessed of very limited funds.

The excavations were commenced last week for the foundations of the memorial to Charles Garnier at the Rotunda of his principal work, the Paris Opera House, but a further delay in the progress of the work is inevitable. It appears that the site selected was used for one of the builders' workshops, and for a depth of about 7 feet débris and fragments of stone were met with. With such a foundation it would not be possible to support a heavy memorial of bronze and granite. It will therefore be necessary to carry up the foundations for about 20 feet, and as they will be in solid masonry and the space is limited, the time occupied may extend to months unless extraordinary expedition is used. It is therefore possible that the memorial will not be inaugurated until 1902.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: SOUTH CHOIR AISLE, HALF LENGTH.

LONDON AND COUNTY BANK, CHICHESTER.

DESIGN FOR SCHOOLS FOR THE SCHOOL BOARD OF NORTHAMPTON.

This design was prepared to accommodate 1,380 children and to occupy two principal street fronts. In order to reduce risk of contagion, to insure light and air, and to facilitate order and control of the children, each class of sixty being under a certificated teacher, has a separate cloakroom and exit in addition to the central entrance. The boys occupy the right-hand side, the girls the left, and the infants the central feature of the block.

HUNTING HOTEL, HINTON GORSE, WOODFORD, NORTHANTS.

This hotel is designed to supply a want in the centre of the Grafton hunting district, and close to Woodford station on the Great Central Railway. The building occupies the site of some typical Northamptonshire cottages, built of ironstone of a warm brown colour. This old walling has been incorporated in the ground storey of the new hotel, with quoins of Bracknell red bricks. The upper portions are of black and white work with Broseley brindled tile roof. The porch is of oak, and with the staircase is placed at the extreme end of the block to allow of the addition of a future wing. The accommodation comprises dining-room, coffee-bar, smoke-rooms and skittles on the ground floor. Billiard and card-rooms and some dozen bedrooms on the first and second floors. The stabling consists of four loose boxes, two stalls, harness-room, carriage-house, stores and lofts. A paddock lies to the rear of the stables, and a garden with site for tennis-lawn and summer-house to the south of the hotel.

The works have been carried out by Mr. J. M. Panting, of Northampton, under the supervision of the architects.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

By T. FRANCIS BUMPUS,

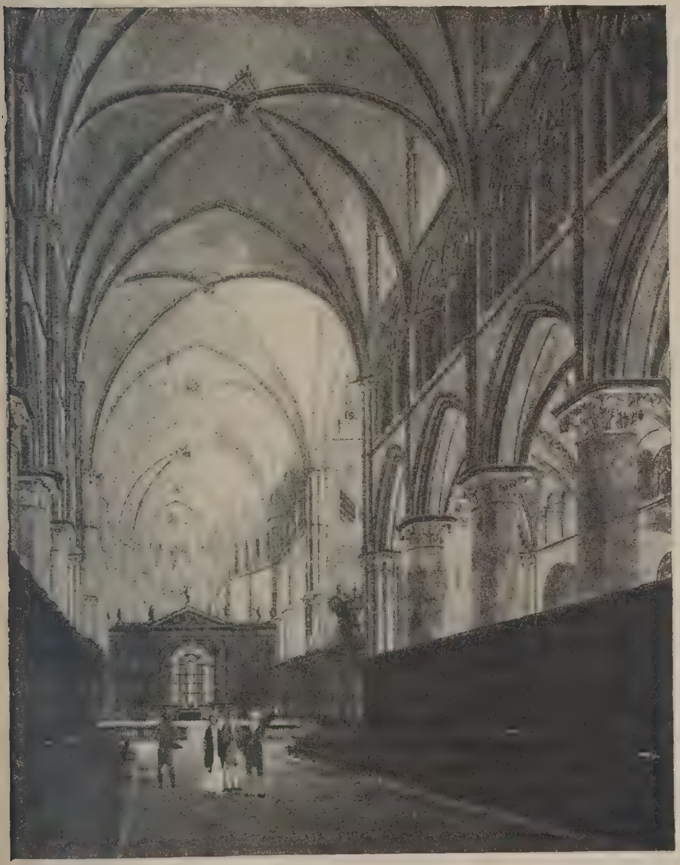
Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

A BRIEF REVIEW OF ECCLESIOLOGICAL PROGRESS, 1855 TO 1875.

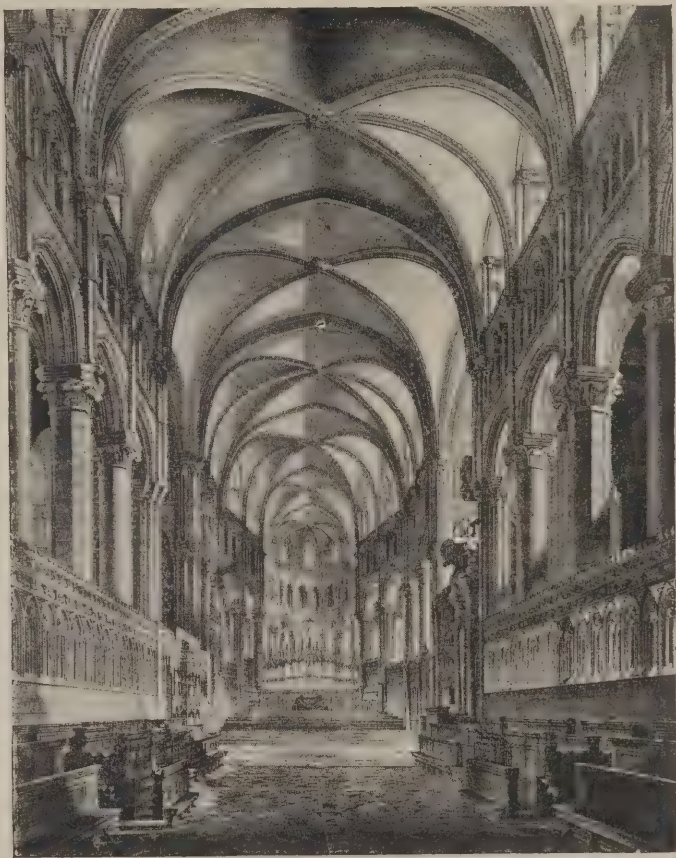
(*Continued from page* 323.)

AT Worcester the works of restoration, extending over a period of nearly twenty years, have already been fully described,* while within the same period, 1856-74, the fittings of Oxford Cathedral had been twice redistributed.†

The first refitting took place in the former-mentioned year under Billings, and consisted in little more than the removal of the organ screen and the evolution of an open Jacobean one out of its exterior face to mark off a little ante-chapel of one bay at the west end of the nave, and the seating of the whole space of nave and choir with Dean Duppa's old benches and stalls, the organ being placed on the floor of the south transept. In this state the church remained until 1870, when its thorough refitting was entrusted to Scott, under whom, *inter alia*, a new west entrance was made from the great quadrangle, the organ replaced on a loft at the west end of the nave, and the large three-light window with which the east end of the choir had been endowed replaced by what was doubtless the original Romanesque fenestration, a couple of round-headed windows surmounted by a large wheel.



THE CHOIR OF CANTERBURY CATHEDRAL IN 1807. (From Wild's "Metropolitical Church of Canterbury.")



THE CHOIR OF CANTERBURY CATHEDRAL IN 1832. (From an engraving in the possession of the author.)

The restorations conducted under Scott's direction at St. Asaph's and Bangor Cathedrals about the same time were interesting, but not great works, many portions and details of earlier and purer work coming to light beneath that of the Third Age.

At St. Davids the works, begun early in the sixties and even yet unfinished in the eastern portions, were much more formidable, the restoration and securing of the great central tower being a feat of engineering skill.

Neither York * nor Lincoln Minsters have had occasion to be so thoroughly overhauled as many of their southern sisters, the works undertaken in them being of a useful rather than an ornamental nature. At the former the south transept, long in a dangerous condition, was very carefully and almost entirely rebuilt between 1870 and 1874 under Mr. Street, while the latter was for many years under the watchful eye of Mr. Pearson. Mr. Crowther had Manchester Cathedral in charge for a considerable time, and at Canterbury much quiet, unobtrusive work was carried out under the Austens. Some mention has already been made of the stained glass with which a member of that family enriched, at his own cost, the clerestory of the choir, and who deserved the greatest credit for the laborious and careful way in which he copied the existing remains of old glass in the cathedral. This, of course, was no advance in the vitreous art, but it was a safe plan to adopt at Canterbury, while its insertion contributed greatly towards toning the over-abundant light in the choir.† A happy effect was produced about the same time in the nave, where, during 1856, a considerable accession to the painted glass took place, Mr. Austen, with commendable liberality, filling the entire nave clerestory, fifteen windows of three lights each, with angels singing in various attitudes, the idea being to make the entire nave shadow out the Te Deum.

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* See *The Architect*, October 12, 1900.

† Prior to 1856 the condition of Oxford Cathedral was that of a choir of the later English type thrust into the eastern limb of the building, picturesque, doubtless, on the whole, but unsuited for the mother church of a diocese, and inconvenient even as a college chapel, while the nave contained naught save some accommodation for occasional university sermons. A very complete account of the choir as it appeared before Billings's alterations appeared in *The Ecclesiologist* for February 1847.

* The choir of York Minster had been refitted after the fire of 1829 by Sir Robert Smirke with stall work very far indeed in advance of its date, and in general effect superior to what was being done contemporaneously at Peterborough under Blore.

† The glass in the clerestory of the eastern part of the choir was inserted in 1854, between which year and 1860 the whole of the upper part of the cathedral had received its complement of vitreous decoration.

From its great length and capacity for seating a large concourse of people, it has never been found necessary to open the choir of Canterbury Cathedral to the nave, but at different times its fittings have undergone alterations. In or about 1827, under Dean Percy, the heavy woodwork above the stalls which had been erected a century before, entirely concealing the exquisite screens of Prior de Estria, was removed, but the blank wall space below the screens was not again wainscotted.[*] The present altar screen—such as it is—was put up about the same time, the idea having been borrowed from the screen work of the lady chapel in the crypt, but the grand archiepiscopal throne, rich in carving by Gibbons, and erected in 1706 at his own cost by Archbishop Tenison, was allowed to remain until 1844, when it was replaced by the present one, a contemptible piece of confectioner's Gothic. The quiet unobtrusive pulpit opposite was designed a few years later by Mr. Butterfield.

Thus fitted, and still retaining its cumbrous pews, the choir of Canterbury Cathedral remained until 1878, when the blank wall space beneath de Estria's screens was covered with panelling in the style of the fourteenth century from the designs of Sir Gilbert Scott, whose last work it was, and the whole choir reseated with benches and desks in corresponding style.

Fortunately, through it all the early eighteenth-century woodwork of the dignitaries' stalls on either side the entrance to the choir has been left untouched. "Esto in perpetua" is the writer's earnest wish.[†]

We who go about the country now and observe the order and beauty with which the greater majority of our parochial edifices are kept—and England has perhaps a greater number of noble parish churches than all the rest of Europe together—can form but little idea of the condition they were in during the first half of the nineteenth century, unless we turn to such plates as those in "The Beauties of England and Wales," Neale and Le Keux's "Collegiate and Parochial Churches," and Britton's "Architectural Antiquities," or to those loose contemporary ones which frequently turn up in bundles of such articles. "Neatness" and "snugness" were the qualities mainly insisted upon by the custodians of our capitular churches in the eighteenth century, and so long as these were duly attended to little else was cared for.

As a proof of how little objects of archæological value and interest remaining in our cathedral and parochial churches were appreciated at this time, the following elegant epistle respecting the ancient stained glass in Salisbury Cathedral—glass of which Wyatt caused it to be almost completely denuded, and, according to some, thrown by cartloads into the city ditch—deserves transcription. It is dated 1788, and was addressed from John Berry, glazier, of Salisbury, to a Mr. Lloyd (probably a collector of curios), of Conduit Street, London :—"Sir,—This day I have sent you a Box full of old Stained and Painted glass, as you desired me to due, which I hope will sute your Purpos, it his the best I can get at Present. But I expect to Beate to Peceais a great deal very sune, as it his of now use to me, and we do it for the lead. If you want any more of the same sorts you may have what thear is, if it will pay for taking out, as it is a Deal of Truble to what Beating it to Peceais his ; you will send me a line as soon as Possoble, for we are goain to move our glasing shop to a Nother plase, and thin we hope to save a great deal more of the like sort, which I ham your most Omble Servant—John Berry."

A writer in the *Mirror* of October 1824 thus disposes of the unrivalled collection of ancient stained glass in York Minster :—"There is a great profusion of painted glass in this church, which may please those who look for no higher excellence than such as merely results from the manufacture of that article ; but should a higher degree of merit be sought for the spectator will be disappointed. Many ignorantly suppose that the art of painting on glass is lost, but the fine window of New College Chapel, Oxford, is in itself sufficient to convince the world *that it was never found till now.*"

Sixty years ago the face of England was covered with an immense mass of Mediæval churches, all genuine and replete with authentic history, but Protestantism having, alas ! robbed religion of its attractions, and national apathy with respect to religious ordinances being all but universal, they were sordidly kept and miserably, nay, shamefully abused.

Here, culled from a publication dealing with church architecture and arrangement, and bearing upon its pale yellow wrapper the motto "Donec templa refeceris," a few paragraphs sufficient to indicate the degraded condition into which matters ecclesiastical in every branch had been suffered through apathy and ignorance to lapse, are appended.

. . . .

St. Mary, Ketton, Rutland, is in a most neglected and wretched condition. The great west window has been filled with clumsy stone bars of perfectly indescribable churchwarden's Gothic;[*] the nave is encumbered with hideous deal boxes of the most flimsy and shabby construction; the floor damp, broken and irregular; a western gallery of deal painted white; the nave arch blocked with boards from below the capitals upwards, and embellished with the royal arms and tables of Commandments; the chancel is entirely blocked off, and affords sad evidence of bad taste and ill usage. The ancient high-pitched roof has been displaced by one perfectly flat, and ceiled within. The windows are of a style something between drawing-room casements and debased Gothic, and the east window is square.[*] The nave and chancel both contain stoves with long black pipes, which add considerably to the effect and *comfort* of the interior. The nave has some very fine old open oaken seats, though in a broken and mutilated condition. A long deal stick is carried from pier to pier along the north side, fitted with pegs, which, when studded with hats and caps during service, must have a novel, if not a very ecclesiastical appearance. The state of feeling which can be content to leave so wonderful a fabric in such a condition is perfectly incomprehensible.

. . . .

The church of St. Mary, Moreland Bishop, Devon, is in a most distressing state. The east window is modern, round-headed and without monials. The reredos Corinthian. Within the altar rails are two pews. The entrance to these and to the altar is close to the north wall, so that those who occupy the south pew pass in front of the altar and within the rails. The altar itself is a wooden cupboard standing on the ground. All the south windows of the nave were "gutted" by a former rector, for the sake of more light. Round three sides of the church are exaggerated galleries, yet the number of sittings is quite inadequate to the wants of the parishioners. At the afternoon service the pews are doubly filled, the occupants taking it in turn to sit down. A vestry at the east end has a gigantic chimney. The west window in the tower has been converted from a Third Pointed to a round headed one. The rood-screen has been removed and placed tier upon tier in the tower-arch, its open work being boarded up. Much of the church is green with damp.

. . . .

At St. Mary, Cannington, Somersetshire, one of the alterations consists in a heaping together of pews in the middle of the church, so as to increase the privileges of a tall pulpit placed in front of the high altar. An old person in the church lately remarked to us, "Ah, sir, 'twas a sad pity to move the pulpit. When it stood on one side we heard very well ; now we hear nothing at all, and the farmers say they cannot tell Mr. D—— from a blackamoor."

. . . .

The condition of St. Mary's, Scarborough, is shameful. Over the altar runs a gallery, and the pews and monuments exceed the grossness of ordinary modern iniquity.

. . . .

An enormous black stove has been set up in the very middle of the choir of Bristol Cathedral, with a black chimney mounting straight up to the vaulted roof, which has been actually broken through to make a passage for it.

. . . .

In the north-east corner of the north aisle of St. Mary, Oakley, Beds, is a large pew, raised considerably above the floor, fitted with carpet, cushions, fireplace and *double windows*, and covered in with a panelled roof. Remains of the old rood-screen (with the colours yet bright) are employed in screening it from the rest of the church.

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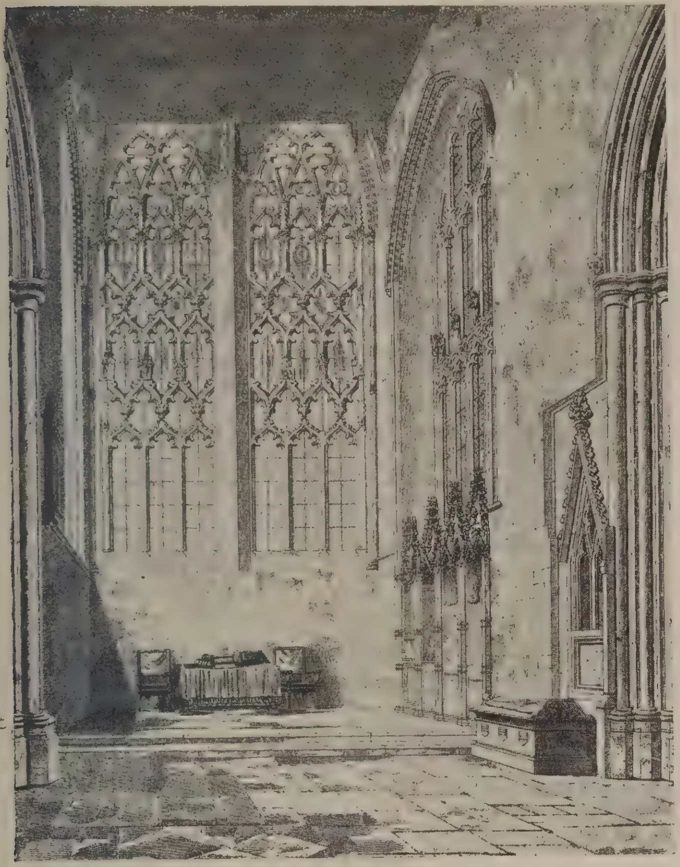
[*] The accompanying illustrations show the appearance presented by the choir of Canterbury Cathedral just before and after the alterations of Dean Percy.

[†] It is true that the return stalls at Canterbury are not what one would call *old* work in the usual use of the term as referable to Mediæval remains, but they are sufficiently ancient to be historically interesting as specimens of their date, and what is more important than mere archaic considerations—they look well where they are, and correspond to the whole feeling of the choir. It is obvious that there are limits to that phase of modern restoration which some quarter of a century ago seemed to display a morbid desire of making all things *new*, the destruction of the old post-Restoration fittings at Worcester occurring to the mind as an example. New fittings are only to be tolerated when that which is found already existing is either thoroughly bad as art or unfitted for its proper uses, not a very fine or strictly "Gothic" theory ; yet had it been more rigidly adhered to during that great tide of restoration which, to its honour be it said, has changed meanness into beauty and heartlessness into love, how many more leaves might have been left in the book of architectural history.

[*] A view of Ketton Church with this debasement of its west window is given in Johnson's *Reliques of Ancient English Architecture*. The central tower and spire, hardly equalled by any in the kingdom, was copied by Raphael Brandon for St. Martin's, Leicester.

. . . .

In Pluckley Church, Kent, the south chancel is separated from the rest of the church by high parcloses, and is entered by a door from outside. The whole is fitted up in a most luxurious manner; the floor is covered with a rich Brussels carpet, under which are spread a quantity of sacks to keep the feet warm and make it soft. The chairs are old-fashioned and high-backed, and have elegant crimson seats. The whole is fitted up like a modern fashionable drawing-room.



Dorchester Abbey, Oxfordshire, before Restoration.
(From Britton's "Architectural Antiquities.")

. . . .

The font cover in Holy Trinity, Long Melford, Suffolk, was sold by auction within the last forty years to a Quaker at Clare, and he now uses it as a top to his summer-house.

. . . .

We are informed that in All Saints, Hutton, Essex, the font is turned topsy-turvy, a small basin, inscribed with the euphonious name of Jacob Jobbins, being placed on the inverted base.

. . . .

At Kemberton, Shropshire, a substitute for a font is kept in the vicar's drawing-room, from whence it is brought out and placed on the altar when the Sacrament of Baptism is administered. The church is in a disgraceful state.

. . . .

At St. Mary, Little Hereford, a wretched small modern font is in use, though the old one, of plain Romanesque character, is in perfect repair, and situated close to it. In April 1846 the old font contained some broken glass, some dead leaves, a nondescript iron instrument and a coal-shovel.

. . . .

At Pentlow, Essex—a church with a round tower and terminating in an apse—the font is hidden among pews, and contained at the time of our visit—(1) an old cotton umbrella, (2) a common hand-basin, (3) a smaller ditto, (4) a brown stone jug, and (5) a dust-broom.

. . . .

The font at St. George's, Hanover Square, is unique in form and situation. It resembles a tolerably-sized marble wine-cooler, fixed in a circular oak frame about a foot high. The whole machine runs upon casters, and is wheeled out when wanted from under the Communion-table.

. . . .

We have heard that a member of the Imperial Parliament has lately erected in his parish church an altar which, according to the best authorities, is strictly legal. It is massive and of stone, but it runs upon casters. The pitiful imbecility of recent conceits could not be more forcibly illustrated than by this development of movable table-legs into their legitimate termination. We can imagine some zealous Puritan of the parish devoting his time and labour to keep the casters well polished and oiled, in order that when Will Dowsing the Second (in the person, perhaps, of Mr. Close)* shall visit the church, he may be saved the trouble of using a crowbar.

. . . .

The chancel of the beautiful church of Asfordby, by Melton Mowbray, is used as a children's schoolroom. When recently visited by a correspondent, the holy table had the following articles upon it:—Twenty writing and copy-books, seven slates, a hone, the master's cane and sundry pens. Within the rails was the master's desk, and a jug of ink covered with a rag was in the sedilia.

And so on. But we shrink from increasing the bulk of this too awful catalogue.

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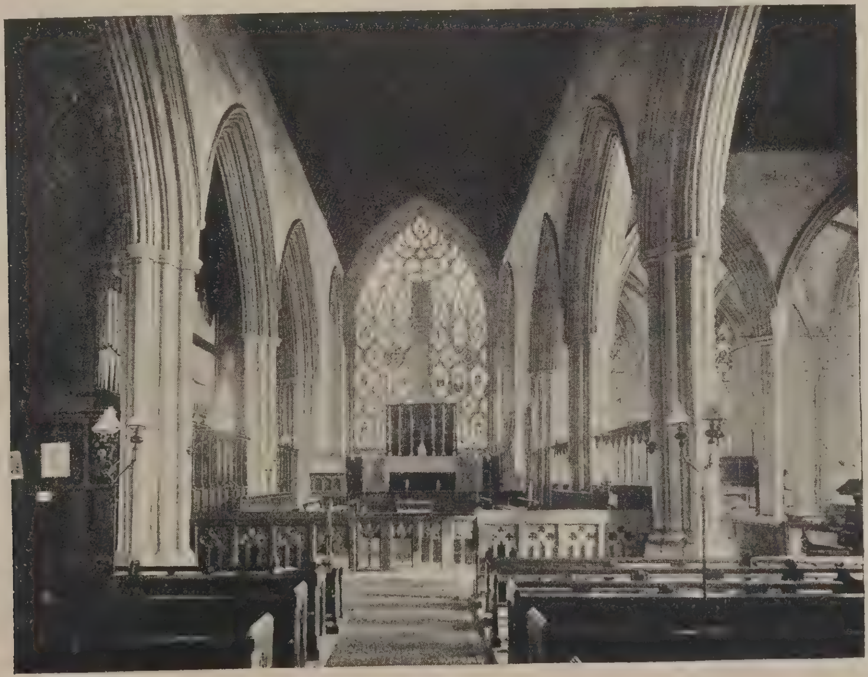
* Rector of Cheltenham from 1826 to 1856, and afterwards Dean of Carlisle—a determined though not particularly formidable antagonist to the ecclesiological movement. His "Fifth of November Sermon," preached at Cheltenham in 1844 and subsequently published under a preposterous title, "The Restoration of Churches is the Restoration of Popery, proved and illustrated from the Authenticated Publications of the Cambridge Camden Society," had for its aim the exposure and annihilation of that body. In after years the very reverend author of this precious "Sermon" no doubt wished to forget it.



Dorchester Abbey, Oxfordshire. The Choir after Restoration.

All honour, then, to those persons and sets of persons who in the face of difficulties and discouragements which at first seemed insurmountable, did their best by correcter fittings and stained glass to ameliorate this shocking state of affairs, and to restore to England's Church some of the splendour from which she had been too long estranged.

THE SURVEYORS' INSTITUTION.

THE annual general meeting of this Institution was held on Monday at the Institution premises in Great George Street, Westminster. Sir John F. Rolleston, M.P., the president-elect, occupied the chair in the absence, through illness, of Mr. John Shaw, the retiring president. The annual report, read by Mr. Rogers, the secretary, stated that the Institution now probably included in its list of members most of the surveyors of standing in the United Kingdom, and it had a total in the various classes of 3,200, compared with 3,096 a year ago. The total investments, calculated at current prices, represented a sum of 13,724*l.* 19*s.* Of 142 candidates who sat for the last preliminary examinations 111 passed, and of 362 who went up for the different professional examinations 246 passed. As was the case last year professional examinations were held contemporaneously with the English examinations both in Scotland and in Dublin. The cost of the construction of the new premises was 30,337*l.*, to which had to be added architects' commission, law charges, &c., making a total of 34,198*l.*, while the outlay on new furniture and fittings amounted approximately to a sum of 1,000*l.* The whole outlay had been met out of the accumulated funds, and no debt whatever remained upon the building. There had been large additions to the library during the year, and a further outlay would shortly be made on the purchase of books. The present number of volumes was approximately 8,000. During the session the Council had promised financial support to, and had nominated two of their members to act on, a joint committee of the Surveyors' Institution and the Royal Institute of British Architects, appointed for the purpose of collecting and tabulating information from all parts of the country as to damage to buildings resulting from lightning, to discover, if possible, how far buildings were rendered lightning-proof by modern systems of protection, and to ascertain what improved methods might be adopted. The Council also decided during the session to co-operate with the Royal Institute of British Architects on a joint committee with reference to the amendment of the law and practice as to ancient lights. The committee had since decided to draft a Bill for introduction into Parliament. Mr. E. H. Blake formally moved and Mr. M. P. Holmes seconded the adoption of the report, which was agreed to. The Chairman, replying to a vote of thanks passed to the late president and members of the Council, said the Council was representative of the various branches of the profession. While regretting the retiring president's absence and its cause, he thanked them for the honour they had conferred upon him in electing him as his successor. He felt that to preside over an institution which was so important, popular and widely distributed as that, was an honour of which anyone might be proud. The Chairman was then invested with the president's chain of office, and he afterwards presented the prizes gained during the past session. The principal award—the "Penfold" gold medal—went to William Edward Trent, who, in the building subdivision of Division IV., headed the list of Fellowship candidates with a total of 802 out of a possible 1,000 marks.

ARCHITECTURAL DRAWING IN DUBLIN.

A CORRESPONDENT of the *Irish Times* having remarked on the few examples of architecture in the exhibition of the Royal Hibernian Academy, Sir Thomas Drew, the president, says:—It is a limited exhibition. What there is is evidence enough that there is not much of the hand of the Irish artist-draughtsman. In the showing of architecture pictorially and popularly in an Academy exhibition it is not necessary that the architect's design should be pictured by his own hand. As a rule it is not so; but it is not satisfactory that works of Irish architecture should be so almost exclusively pictured by London draughtsmen.

An architectural association of young architects, architects' assistants and architects' pupils has in two years done a remarkable work in Dublin in co-operative self-education and mutual improvement. It has surprised older architects to find what a body of really clever and industrious and enthusiastic students of the art of architecture Dublin could show, and what a high standard of mechanical draughtsmanship obtained in the business practice of architects in Ireland.

There has always, however, been a strange apathy, traditional in Dublin, among this class about acquiring the art of representing pictorially and artistically the works of architecture, which they were content to project with compasses and squares in diagram plans and elevations, very neatly and dexterously and accurately, no doubt. The art of drawing in perspective, not a difficult one, but one which a true architect should be master of to realise the effect of his own designs, is strangely neglected by draughtsmen of mechanical ability in Ireland. Consequently arises the practice of sending so much architecture out of Dublin to be made pictorial in London by clever young artistic draughtsmen, who make a good business by laying themselves out to produce taking pictures of architects' works for popular exhibition. This is not satisfactory. It reacts injuriously on the architectural school of the country. The younger draughtsmen, of to-day recruit the ranks of practising architects of a next generation. Already many architects perceive in the tendency of Irish architecture an evil influence of too mechanical draughtsmanship, of a mannerism of abstract delineation of the drawing-board, and a failure of appreciation of realised effect in mass and light and shade, and especially of the qualities of simplicity and breadth and repose—the characteristics of a noble school of architecture.

Exhibition of realised architecture by photographs is permitted by the Hibernian Academy. It is a legitimate practice, and at least more satisfactory than by drawings made to order in London.

THE ROUND TOWER, ABERNETHY.

ON Saturday a party of members of the Edinburgh Architectural Association visited the Round Tower of Abernethy. The Rev. Dugald Butler described it as a memorial of the antiquity and early ecclesiastical importance of the place. It is the one monument that speaks of its great past. The first church of Abernethy was probably the result of St. Ninian's preaching among the Southern Picts. Bede distinctly states that after the Candida Casa was founded, at or near the present Whithorn, the missionary apostle proceeded northwards and preached the gospel among the Picts living south of the Grampians. This is all the more probable as Abernethy was most likely the Orrea mentioned by Ptolemy, and while it was at a later period the capital of the southern Pictish kingdom, it is also described by the author of the Scotichronium as the "capital of the whole kingdom of the Picts." Its early civil importance would lead to its early ecclesiastical or religious importance, as St. Ninian by winning the favour of the king there (*cujus regio, ejus religio*) would also win an access to all his territory. The church was dedicated (according to the Pictish chronicle) in 460 A.D. to St. Bride of Kildare, and endowed with large territories by Nectard, king of the Picts. The church was restored by St. Columba in 590 A.D., when he conducted his missionary work among the Southern Picts, after the conversion of King Brude at Inverness. For two centuries at least it was a Columban monastery, closely connected with Iona, and it was a missionary centre of religious life to the country, far and wide. About 716 the king of the period conformed to Rome and the Columban Church suffered in Scotland, the Columban clergy being expelled, and conformists to Rome taking their place. About 844 another revolution happened, and the Columban clergy were restored to their old position of influence. Abernethy once more assumed its ancient importance, and from about 850 to 908 A.D. became the metropolitan church of the whole kingdom of the Picts—and, according to Bower, "in the church of Abernethy there had been three elections of bishops when there was but one sole bishop in Scotland, and it was then the principal royal and pontifical seat for some time of the whole kingdom of the Picts." Now, I agree with Dr. Skrine's position in averring that it was at this time (between 865 and 908 A.D.) we may place the erection of the Round Tower of Abernethy, which could only have been the work of the Irish clergy, restored by Kenneth MacAlpine, and this is all the more probable as it is undoubtedly of an older type than the Round Tower at Brechin, the date of the building of which can be placed with certainty late in the succeeding century. Abernethy also possessed at this period the relics of St. Columba, which were brought from Iona first to Dunkeld, then to Abernethy, and in 908 A.D. to St. Andrews, when it succeeded Abernethy as the metropolitan church of Scotland. The tower is thus a witness to the period when Abernethy was the metropolitan church, and the town was the residence of the bishop. Its main work is Celtic, although the upper windows are additions probably of the eleventh or twelfth century. The doorway contains no symbolism as at Brechin, and the door faces the north. The present wooden stair is a recent addition, and originally there were internal platforms. Like the other round towers it served the purposes of (1) a bell-keep, (2) a signal tower or beacon, (3) a place of defence and preservation in time of attack by the pillaging Danes. For about twelve courses from the ground the stone is a hard grey sandstone; the rest of the structure is of a bright buff-coloured freestone, much weather-worn at the joints. The period of the round towers generally dates from the ninth to the eleventh century.

THE LIVERPOOL CATHEDRAL PROJECT.

A LETTER from Mr. Geo. Bradbury, diocesan surveyor, past president of the Liverpool Architectural Society, and the architect of Church House, expresses the following views as to the cathedral site:—

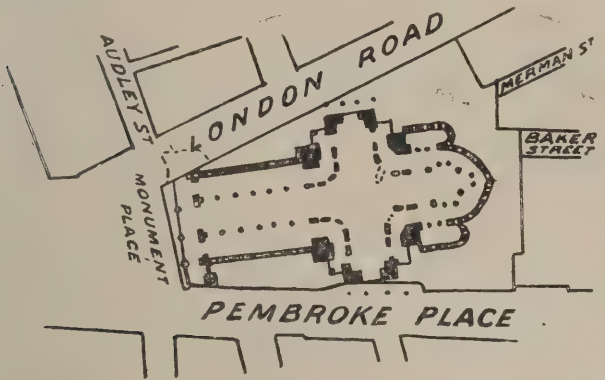
In selecting a site for the new Liverpool Cathedral, I think the following points should be carefully considered:—

1. That it should be placed upon a site a little apart, away from the noise, dirt and bustle of the heavy traffic of the Liverpool streets.

2. That it should be as near the centre of the city, between north and south, as possible. The north of Liverpool I take as the boundary of Bootle, and the south including the whole of Garston, for whether that district is incorporated with Liverpool or not, it is really part of the city, and very extensive building operations are going on there.

3. If a portion of the cathedral is to be built within the next twenty years the question of the cost of the site is a most important one. If the committee have to spend 150,000*l.* to 200,000*l.* in purchasing buildings, then all the money at present subscribed and for the next few years would probably be expended without the laying of a single stone.

4. The question of foundations. The cathedral should be built on the rock, so as to properly sustain the high towers or spires, and avoid the disasters that have befallen so many of our ancient cathedrals by the towers and spires falling and destroying large portions of the transepts and naves. The cost of foundations in the lower parts of the city would be something enormous.



5. The question of architectural effect; and as this is one upon which there may be great difference of opinion, I do not think I can do better than quote from the highest possible authority. Mr. Ruskin, on the subject of building on sloping ground, says:—"The fact is that the apprehension of the size of the natural objects, as well as of architecture, depends more on fortunate excitement of the imagination than on measurements by the eye, and the architect has a peculiar advantage in being able to press close upon the sight such magnitude as he can command. There are few rocks even among the Alps that have a clear vertical fall as high as the choir of Beauvais, and if we secure a good precipice of wall or a sheer and unbroken flank of tower, and place them where there are no enormous natural features to oppose them, we shall feel in them no want of sublimity of size."

From notes that have appeared in the papers I understand the committee are considering three possible sites:—St. Luke's, Bold Street; Monument Place, London Road; and St. James's Mount, Upper Duke Street, and as Mr. Robert Gladstone appeals with confidence to every architect in Liverpool to confirm his opinion with regard to St. James's Mount, I have ventured to lay before you a few facts with regard to the above situations.

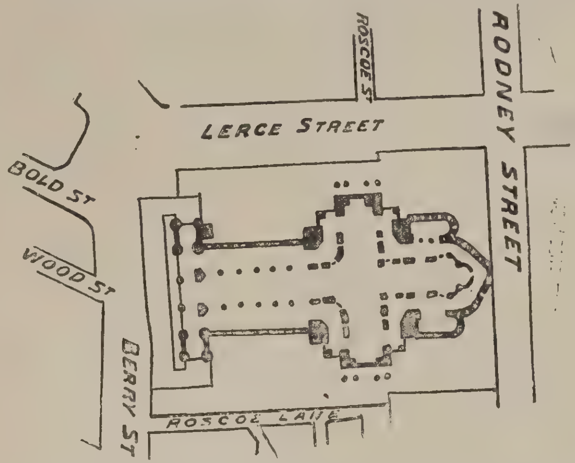
St. Luke's Church site has a length, from the steps to the wall in Roscoe Street, of 290 feet, with a breadth of 170 feet; it would be too small for a cathedral unless six houses in Rodney Street were purchased, when the site would then have a length of 480 feet by a breadth of 170 feet. Judging this site with regard to its quietness, it is exceedingly bad; tram lines run on two sides almost incessantly, including Sundays, and the traffic is enormous. If you will go inside the church you will find that the noise is almost unbearable, and to quote from a work recently published, "This church was built to serve two purposes—a church and to be available for oratorio. It originally had an exceedingly handsome oak timber roof, but subsequently, owing to the very defective acoustic properties, the internal plaster groining was placed below." The Rev. R. W. Hiley, D.D., a curate of St. Luke's, says:—"It is a very hard church to officiate in. When preaching there I have heard my voice reverberating above me, and was always exhausted by the effort; in fact it is said that St. Luke's Church has been the death of every incumbent unless he gets away after a few years' tenure." One wonders what he would have said of the church in these days when the buzz of the electric trams frequently cuts off the best part of a sentence.

1. This site cannot possibly be considered as a quiet spot.

2. It is well in the centre of Liverpool.

3. With regard to the cost of the minimum site, it would probably amount to 20,000*l.* without considering the question of the vested rights of the incumbent or the trustees and without buying the land up to Roscoe Street.

4. No doubt good foundations could be obtained if the present St. Luke's was entirely removed, but it would be very difficult to obtain proper levels. If the chancel was put on a level with Rodney Street, the fall to the top of Bold Street would be somewhere about 40 feet. I cannot think that public opinion would ever allow the handsomest church in Liverpool to be pulled down and removed; it cost about 60,000*l.*, some say 80,000*l.*, of public money to erect, and I think it should be left as it is to carry on its enormously successful parish work.



5. And, as a whole, this church has a fine architectural effect, and on that ground it would be a great pity to have it removed.

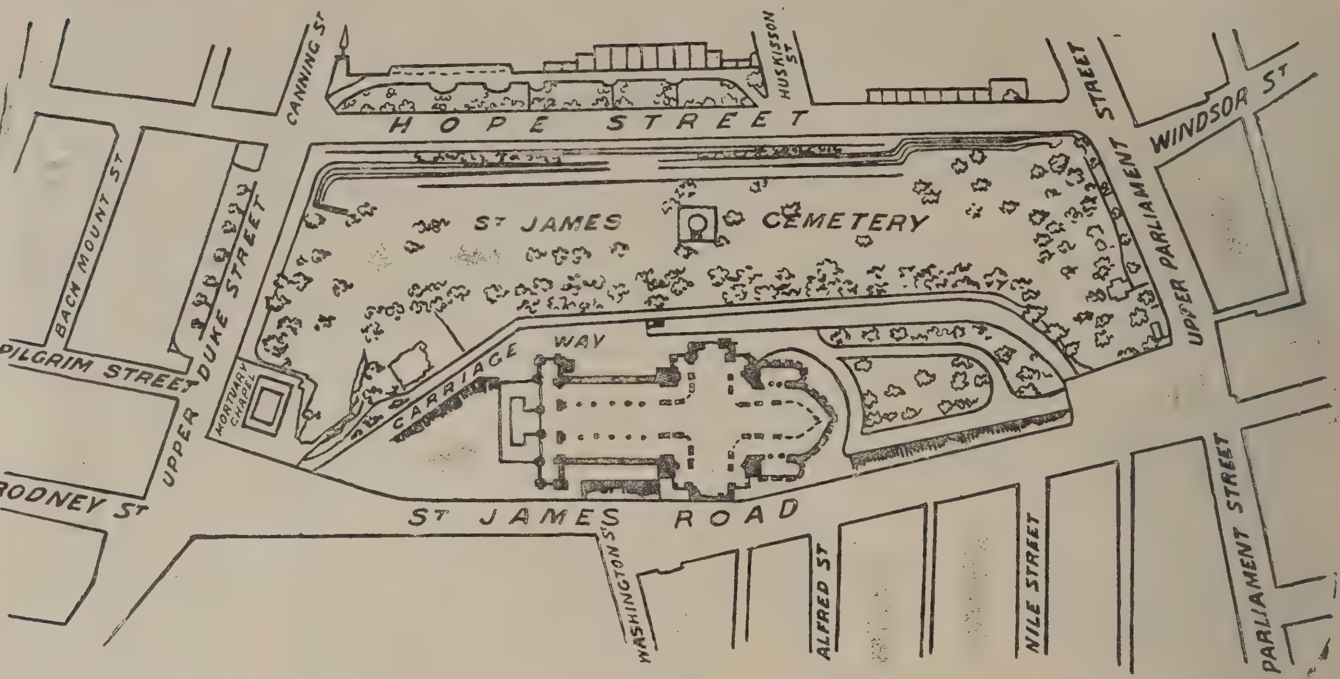
I have traced from the ordnance surveys the three sites mentioned, as shown in the above sketches; they are all to the same scale, and upon each I have placed the design which, I understand, was placed first in the competition held for the Liverpool Cathedral in 1886. All the plans sent in at that time gave a cathedral approximately 450 feet long by 230 feet across the transepts. It will thus be seen that unless the property on the south side of Bold Place extending to Roscoe Street, and an additional seven houses in Rodney Street, as well as the new property in Berry Street, were purchased, the cathedral, as designed by the competitors, could not be placed upon St. Luke's site without very seriously curtailing its length and breadth, and the purchase of all the above property, which would probably amount to 130,000*l.*, would render it an impossibly costly site, even if the vested interests, dirt and noise were not taken into consideration.

Monument Place site has a frontage of about 130 feet, and at the back, as I have sketched it, a width of about 370 feet, and from front to back a depth of about 480 feet. This site cannot possibly be considered "a quiet place"—the electric trams, the noise of the traffic, would make it almost impossible to hear anything of a cathedral service Only those who live in houses facing on to a road where the electric cars run can really estimate the noise they cause. On the question of cost this site, in my opinion, would involve the expenditure of 130,000*l.* in land and buildings, and a further 50,000*l.* as trade compensation—total, 180,000*l.* at least. A comparatively new bank, large business premises, valuable shops and a church would have to be removed. The foundations no doubt would be found satisfactory.

With regard to the architectural effect, it could be seen on three sides, and would have a very imposing appearance; but owing to the large amount of very small property with which it would be surrounded, it is doubtful whether the weekday or Sunday services conducted in that district would be largely attended by those who are able to support cathedral services.

The same cathedral plan as I have shown in the St. Luke's site I have shown in the Monument Place site. It will be noticed that it very nearly fills it, and any future extension for houses of residence would become very costly; nor is this a neighbourhood where we could reasonably expect our archdeacons or canons to reside. For the reason therefore of the noise and the enormous cost of the St. Luke's and Monument Place sites I think they are both entirely unsuitable.

St. James's Mount has up to a short time ago been considered quite unsuitable, except in connection with St. James's Cemetery. It is not at all necessary that the early ideas of building a bridge across the cemetery to Hope Street, or putting the cathedral upon huge arches should be considered.



St. James's Mount is in itself sufficiently large to admit of a cathedral without even disturbing the boundary railing of the cemetery or the mortuary chapel, nor need a single grave or stone be disturbed. The dimensions across the site at its widest part are, as given by Mr. Gladstone, about 248 feet, and a length of 1,020 feet. Your other correspondents who have quoted different figures have probably not measured at the widest part, where, of course, the transepts would be placed, where a width of 220 feet would be more than sufficient.

1. This site would form a place "a little apart," away from the noise, the dirt and bustle of the heavy Liverpool traffic. It would be surrounded with light and air on all sides.

2. It would be very near the centre of Liverpool; the tramcars run sufficiently near to meet all reasonable requirements; they run up Parliament Street, along Catharine Street, Great George's Street, and when the widening of Lower Duke Street is completed in the very near future no doubt there will be another line of trams running up Upper Duke Street. Three of these tram routes would be about 170 yards from the cathedral, quite as near as they ought to be. Surely it cannot possibly be thought that the precincts of a cathedral should be occupied with tramcars like the roads round a football ground.

3. *Re* the cost. There are only six houses on the Mount of any size. The other three are merely small cottages or a lodge. The houses could probably be bought for a comparatively small sum. One is at present empty, and the others, even the largest of them, have never produced a very large rental. The freehold of the whole site belongs, I believe, to the Corporation, and if they could not be induced to give their reversionary interest without cost for such a public purpose I do not think that even their interest in the land could be placed at more than 10,000*l*. This site ought therefore to be acquired, with all the houses upon it, for about 20,000*l*., and this sum, compared with the cost of other sites, ought not to prevent the commencement of the erection of a cathedral within a very short period.

4. From a careful survey I have made of the cemetery I think the original rock would be found at a reasonable depth below the surface of St. James's Mount. Wherever the cathedral is built, the spread of the foundation walls will necessarily cause them to have to be carried down a considerable depth. The cost of the foundations of this site would probably be far less than of any other site in Liverpool. The walls would stand upon the solid undisturbed rock, and in this way there would be no danger of any accident in the future.

5. The architectural effect, as regards situation, would, in my opinion, quite equal if it does not surpass anything we have in England. The cathedral would probably stand on a perfectly level platform about 13 feet above St. James's Road at its north end. The nave floor would, therefore, be about 150 feet above the level of high-water mark, and about the same level as Hope Street, facing Gambier Terrace. The view of the cathedral for the whole length of that part of Hope Street viewed across the pretty hollow of the cemetery would be something almost unique in England, and of great magnificence.

It would stand in an open space nearly a quarter of a mile long by 200 yards wide, and in my opinion Mr. Ruskin must have had such a site in his mind when he wrote the words quoted at the commencement of this letter. The St. James's Mount site is, in my idea, the only one in the whole of Liverpool that meets the conditions of a Liverpool cathedral.

How a cathedral could be placed upon it and the surrounding streets, will be better shown through the eye by the sketch of Mr. William Emerson's cathedral design than by columns of descriptive writing.

THE BIRMINGHAM ART GALLERY.

At the meeting of the Birmingham City Council the Lord Mayor announced the receipt of a communication from Mr. J. T. Middlemore, M.P., withdrawing the offer of pictures which he made in October 1898 and again in 1900. The pictures were offered to the city on condition that the needful extension of the Corporation Art Gallery was made. The Lord Mayor said that he had had a conversation with Mr. Middlemore, who desired his decision to be regarded as final. As the requisite accommodation could not at present be provided by the Council, the Lord Mayor could not see that Mr. Middlemore had any alternative. He acquired the pictures, after much thought and a considerable expense, with the distinct purpose of presenting them to Birmingham, and this hope he had cherished for a number of years. His lordship was led therefore to believe that if, when the new art buildings had been secured by the Corporation, the pictures remained in Mr. Middlemore's possession, the offer in some way or another would be renewed. At the same time the Lord Mayor did not wish the impression to get abroad that it would be useless for generously-inclined people to offer city art treasures in the belief that they could not be accommodated. That would be most unfortunate, and he had no doubt that the committee having charge of land on the opposite side of the existing art gallery would lose no time in coming forward with a scheme for the extension of the art gallery accommodation.

THE ROYAL EXCHANGE.

The chronological scheme adopted by the Gresham committee for filling in the panels of the Royal Exchange with works of art is as follows:—1. The Ancient Britons and Phœnicians trading on the coast of Cornwall (given and painted by the late Lord Leighton). 2. Alfred the Great repairing the walls of the City in the ninth century. 3. William the Conqueror granting a charter to the citizens of London (given by the Corporation and painted by Mr. Seymour Lucas, R.A.). 4. William II. building the Tower of London. 5. Henry II.: Foundation of the Hospital of St. Thomas of Acon. 6. King John sealing Magna Charta (given by the late Mr. John Paddon and painted by Mr. E. Normand). 7. Scene of a Folkmote in St. Paul's Churchyard. 8. Edward II.: The famous *iter* at the Tower. 9. Edward III.: The entertainment of the Vintners' Company to the five Kings. 10. Richard II.: The insurrection of Wat Tyler. 11. Henry IV.: Sir Richard Whittington's charities (given by Mr. Abe Bailey and painted by Mrs. E. Normand—Henrietta Rae). 12. Henry VI.: The Charter of Philip the Good, Duke of Burgundy, to the Merchant Adventurers, 1446. 13. Henry VI.: Marching of the trained bands to Barnet. 14. Subject not yet settled. 15. The award of Lord Mayor Bittlesdon in the dispute as to the precedence of the Merchant Taylors' and Skinners' Companies (promised by these companies and to be painted by Mr. Abbey, R.A.). 16. The Crown offered to Richard III. at Baynard's Castle (given by Mr. Carl Meyer and painted by Mr. S. Goetze). 17. Foundation of St. Paul's School by Dean Colet, *temp.* Henry VII. 18. Elizabeth: The opening of the Royal Exchange (given by the Mercers' Company and painted by Mr. E. Crofts, R.A.). 19. Charles I. demanding the five members at Guildhall (given by Sir Samuel Montagu and painted by Mr. Solomon J. Solomon, A.R.A.). 20. The Fire of London (given by the Sun Fire Insurance Company and painted by Mr. Stanhope Forbes, A.R.A.). 21. William III. and Mary: Founding of the Bank of England. 22. William IV.: Opening new London Bridge. 23. Queen Victoria opening the third Royal Exchange (given by Mr. Deputy Snowden and painted by Mr. Macbeth, A.R.A.). 24. Modern commerce (given by Mr. T. L. Devitt and being painted by Mr. Brangwyn).

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute was held on Monday for general business, Mr. Emerson presiding.

The Late J. M. Brydon.

The President, in making the formal announcement of the decease of the late John McKean Brydon, vice-president, to the meeting, said that there had been many gloomy announcements to make from that chair during the last year or so of losses which had befallen the Institute by the death of distinguished and respected members, but he thought there had been none sadder than that which it was his duty to mention that day, viz. the loss of their friend and vice-president, Mr. John Brydon. When a man died full of years, and with his work carried out to completion, one felt that his life had seen a fitting ending; but in the case of Mr. Brydon, and in that of Mr. William Young, who died a few months ago, they had made the designs for the largest work they had ever been employed upon, but before they could even lay one stone they had been called away. He would ask that an expression of their sorrowful regret for the loss they had sustained be recorded on the minutes, and that a letter of sympathy and condolence be forwarded from the Institute to Mrs. Brydon, his widow.

Mr. Aston Webb, A.R.A., said he was sure they all felt with the President the gloom and solemnity of the occasion. Death had been very present with them lately. At their last meeting it was Arthur Cates; at the present it was John McKean Brydon. They might almost use the words of John Bright on a memorable occasion, "The Angel of Death is present amongst us; you can almost hear the beating of his wings." John Brydon, whom they all knew so well, was so keen, so alert, so genial and so kindly that it seemed almost impossible, even for those who saw him laid to rest the other day, to realise that he would never sit in his accustomed place on these benches again. He was a man of strong opinions, and a man who did not shrink from expressing them strongly; but he also had the feeling of give-and-take which was necessary to the carrying on of the work of this life, and he never pressed his opinions beyond what he was entitled to do. As an architect, he strenuously advocated breadth and simplicity in architecture, and in his work he endeavoured, and to a great extent succeeded, in carrying out those principles. He (the speaker) had not the privilege of knowing Mr. Brydon as intimately as some of those present, but he knew that when he first came to London his life was not free from struggle and almost hardship. As a man, sorrow and bereavement had fallen to him, perhaps somewhat more than to the average man amongst them; and as at last he grasped the prize, it was most pathetic and almost tragic to think that he himself was snatched away, and that the prize was to fall to another hand. It made them feel with Burke, "What shadows we are and what shadows we pursue." The present was not the time and he (the speaker) was not the man to give a critical notice of his work or of Brydon as a man, but it was a time for them to express their great regret and sorrow that they should never see him there any more. It was also fitting and right that they should convey to those dear to him whom he had left behind their sincerest sympathy and condolences with them in the great loss which they had sustained, which they his brethren had sustained, and which the Royal Institute, which he had served so long, so faithfully and so well, had sustained.

Mr. John Belcher, A.R.A., said that the death of Mr. Brydon had come as a great blow to every member of the Institute, not only because they were not acquainted with his illness, and were not aware that he was seriously ill, but because he was one whom they felt they could ill afford to lose. He was a most conscientious artist, working always on quiet and safe lines. He hated meretricious ornament, and highly favoured that which was dignified and monumental in their art. In those respects he set a good example to most of them. But especially did he set them a good example in the interest and affection he showed for the Institute, of which he was so staunch a friend. He never lost an opportunity to favour the Institute, and to do what he could to advance its interests. He was also one who assisted greatly the younger members of the profession, both by his interest in them and by his kindly counsel and encouragement. He was, as Mr. Webb had said, a genial companion and a good friend. The members of the Council would long mourn their colleague; he was always so energetic and ready with good and sound advice and practical assistance. There was much more that could be said about his friend Brydon, but their duty that evening was to express their sympathy with his widow and family in their deep sorrow, and the vote which had been moved had his sincerest support.

The vote having been put from the chair, was passed in silence.

Council for 1901-02.

The following compose the Council for 1901-02:—

President.—William Emerson.

Hon. Secretary.—Alexander Graham, F.S.A.

Vice-Presidents. — John Belcher, A.R.A., vice-president; Thomas Edward Collcutt, John Slater, vice-president.

Members of Council.—Frank Thomas Baggallay, George Frederick Bodley, A.R.A., William Douglas Caröe, M.A., William Milner Fawcett, M.A., past vice-president (Cambridge); Ernest George, past vice-president; John Alfred Gotch (Kettering); George Enoch Grayson (Liverpool); Edward Augustus Gruning, past vice-president; Edwin Thomas Hall, Henry Thomas Hare, Edward William Mountford, Professor Beresford Pite, George Halford Fellowes Prynne, Percival Gordon Smith, Leonard Stokes, Richard Phenè Spiers, Paul Waterhouse, M.A., Aston Webb, A.R.A., past vice-president.

Associate-Members of Council.—Robert Shekleton Balfour, William Henry Bidlake, M.A. (Birmingham); James Sivewright Gibson, Henry Vaughan Lanchester.

Representatives of Allied Societies.—John James Burnet, A.R.S.A. (Glasgow Institute of Architects); Frank Caws (Northern Architectural Association); Charles Henry Channon (York Architectural Society); Arthur Clyne (Aberdeen Society of Architects); Sir Thomas Drew, P.R.H.A. (Royal Institute of the Architects of Ireland); Francis Hashlam Oldham (Manchester Society of Architects); Samuel Perkins Pick (Leicester and Leicestershire Society of Architects); Frank William Wills (Bristol Society of Architects); Butler Wilson (Leeds and Yorkshire Architectural Society).

Representative of the Architectural Association (London).—William Howard Seth-Smith, Fellow.

DEVON AND EXETER ARCHITECTURAL ASSOCIATION.

THE annual meeting of the Devon and Exeter Architectural Association was held in Plymouth on Saturday.

The president, Mr. C. J. Tait, in his address spoke of the past as an eventful year, and the event for which it would be chiefly memorable was the death of the Queen. He did not wish to draw their attention to that fact so much as to the remarkable period over which it was her happiness to preside. It was impossible to pass a final note of criticism on the era; that could only be accomplished when a period had sufficiently detached itself. Yet, look in what direction they might, whether in science, literature, art or commerce, they would find the work done comparable in no mean degree with periods that had left indelible marks upon life, and that advances had been made that were quite unprecedented. The names of poets and novelists that illuminated the sixties and seventies were too familiar to mention. Simpson and Lister had revolutionised surgery; Huxley and Darwin had discovered biology—if one might so express it—and the results of their discovery could not yet be calculated; Siemens and Bessemer had made building construction a new thing. They had not exhausted the energies of steam, yet the field of new lines opened to electrical power was immeasurable. Four centuries ago saw a classic renaissance in art and letters, and they could today judge of its character and achievements. When they were enabled to view the Victorian age from a perspective point—its hopes and aims for art—they would, he thought, agree that those also found expression in a re-birth, the re-birth of romanticism. That romantic note was heard in its deepest tones, perhaps, at Oxford, and occasioned that upheaval of feeling spoken of as the Oxford movement. In so far as it was a church movement—and indirectly affected church architecture—it assisted to bring to the front such men as Augustus Welby Pugin, George Gilbert Scott and Edmund Street. But the springs of that movement lay deeper in art than perhaps in anything else, and found therein a more complete expression. Edward Burne-Jones and William Morris, both young Oxford undergraduates and destined for the Church, left the University without their degrees and devoted themselves—the one to painting and the other to architecture. And outside the walls of the University they met with a more paramount influence still—that of Dante Rossetti—and the enthusiasms of young men like themselves, such as Madox Brown and Millais. To William Morris, in particular, they owed more than he could say. He insisted on the importance of colour in architectural accessories; and his commercial undertakings slowly enabled him to force the fashion, that doorway by which alone society was accessible to new ideas. Meanwhile, Wm. Burges, Norman Shaw and E. W. Godwin were grafting a fresher growth on to architecture. But architecture transformed itself with difficulty. Styles had resistant materials to deal with. They were long growing, and they were "an unconscionable while a-dying." They further demanded specific needs for their true development; and those needs, while social conditions were in that rapid fluctuation in which they found them to-day, were superseded before they had had time to arrange themselves in definite form. Further, that renaissance of the Mediæval, of the romantic sentiment, revealed to them their true position—the position they held as inheritors of both Classic and Mediæval tradition. The claims of Gothic architecture were strong. Nothing could, however, be representative; nothing could be lasting that did not give expression to all preceding influences—a something which combined the refinement of the Classic with the freedom of the Gothic. Such a union was no fancy. Something of the kind was achieved by Tudor architecture. It behoved every architect to cultivate a catholicity of taste. His appreciative powers would be quickened, and he would find his life in all respects both fuller and broader. He might be told that specialism was more remunerative, but the age was not without signs that specialism and cranks in general had enjoyed their most profitable period, and that it was not so patient of the formalist and the pedant as it used to be. After a reference to the Strand Improvement scheme, the President said another competition, and one of national importance, at present occupied the public interest—the proposed memorial to the late Queen. It appeared to be generally regretted that the endeavour had not been put upon broader lines. The least defensible part of it was undoubtedly the placing whatever sculpture should be employed in the hands of a single sculptor. The only apology that might be made by the initiators of the scheme was that they considered sculpture of such minor importance as to render any multiplication of ideas unnecessary. That, he ventured to think, would hardly recommend itself to those who realised the part played by sculpture during the best periods of monumental art. They were on the threshold of a new century, and in their choice of a president, which they made that day, should be found a happy augury for the future of the Society. For the coming year at least, under the presidency of Mr. Luff, they might be confident of success, and a glad beginning was the best introduction to the future.

A vote of thanks was accorded the President for his address on the motion of Mr. C. King, seconded by Mr Ralling, and supported by Mr. B. Priestley Shires.

Mr. Harbottle Reed proposed Mr. H. G. Luff as the president for the coming year, which was unanimously carried.

Mr. Luff, in acknowledging the honour, took the chair.

Mr. J. Pinn (Exeter) was elected vice-president, and Messrs. Harbottle Reed and O. Ralling were re-elected hon. secretary and hon. treasurer respectively.

Correspondence

Berlin International Fire Exhibition.

SIR,—The daily Press having commented on the entire absence of British exhibits at the Berlin International Fire Exhibition, the enclosed remarks may be of interest to you.—Yours very truly, H. S. TAYLOR, Assist. Secretary.

"The attention of the British Fire Prevention Committee having been called to the fact that the curious lack of enterprise on the part of the English fireproofing and fire-appliance trade had resulted in this country being scarcely represented at the Berlin International Fire Exhibition, steps have now been taken to see that Greek Britain is at least represented by some scientific exhibits. A large stand has, in fact, now been retained by the committee to show photographs, plans, &c, of such materials and systems of construction as have been before the committee for investigation, and a number of models are also being sent to Berlin. Further, some large plans and drawings of London fires are being shown, together with a very interesting collection of old insurance plates.

"Although the British Fire Prevention Committee has from patriotic motives tried to step into the breach at short notice with exhibits arranged from a scientific point of view, the lack of enterprise on the part of the trades concerned is highly regrettable, as the natural result can only be that much of the business to which Great Britain might well lay claim must again drift into the hands of the more energetic foreign competitors, who have taken the pains to show what they can do in meeting the requirements of fire protection. An exhibition of this description has particular influence on visitors from the colonies and from countries such as Russia, Turkey and the South American Republics, and if individual firms do not see their way to participate in exhibitions, the petty jealousies and rivalries should at least be so far overcome as to allow of an economical 'collective' exhibit, so that the credit of our industries is upheld and a loss of trade prestige avoided. The remarks of the Paris Exhibition Commissioners in respect to the lack of initiative in foreign trade exhibitors can only too truly be repeated regarding this unfortunate case of industrial apathy at Berlin."

GENERAL.

The Anglo-Americans of Brussels propose to erect a reredos in the Church of the Resurrection to the memory of Queen Victoria. The chaplain, the Rev. W. W. Clark, is receiving subscriptions, and all past and present residents of the Belgian capital are invited to contribute.

M. Joseph Engel, the Hungarian sculptor of the past generation, who at one time enjoyed a considerable reputation in England, died last week at Budapest in his eighty-sixth year. M. Engel, who had studied in Vienna and Paris, afterwards proceeded to London, where he attracted the attention of Queen Victoria and the Prince Consort, for whom, as well as for the Prince of Wales, he subsequently executed some portraits, busts and other works.

The Kaiser is said to be so pleased with the appearance of English villa residences that he brought back with him last January a series of plans and water-colour drawings of those which had particularly taken his fancy. At his instigation a company has been formed to lay out an entire quarter in the suburbs of Potsdam with villas built in accordance with these sketches.

The Local Government Board have appointed Mr. James Green (Weatherall & Green) to make the initial valuations of the properties which the London County Council allege will be bettered by the improvements about to be effected in the widening of High Street, Putney.

A Prize or Scholarship is to be founded in connection with the City of London College Science Society, if sufficient subscriptions are obtained, as a memorial of the late Mr. Henry Angel, who was for many years one of the teachers.

Professor Silvanus P. Thompson delivered last Thursday the Boyle lecture for the year 1901 in the hall of Balliol College, Oxford.

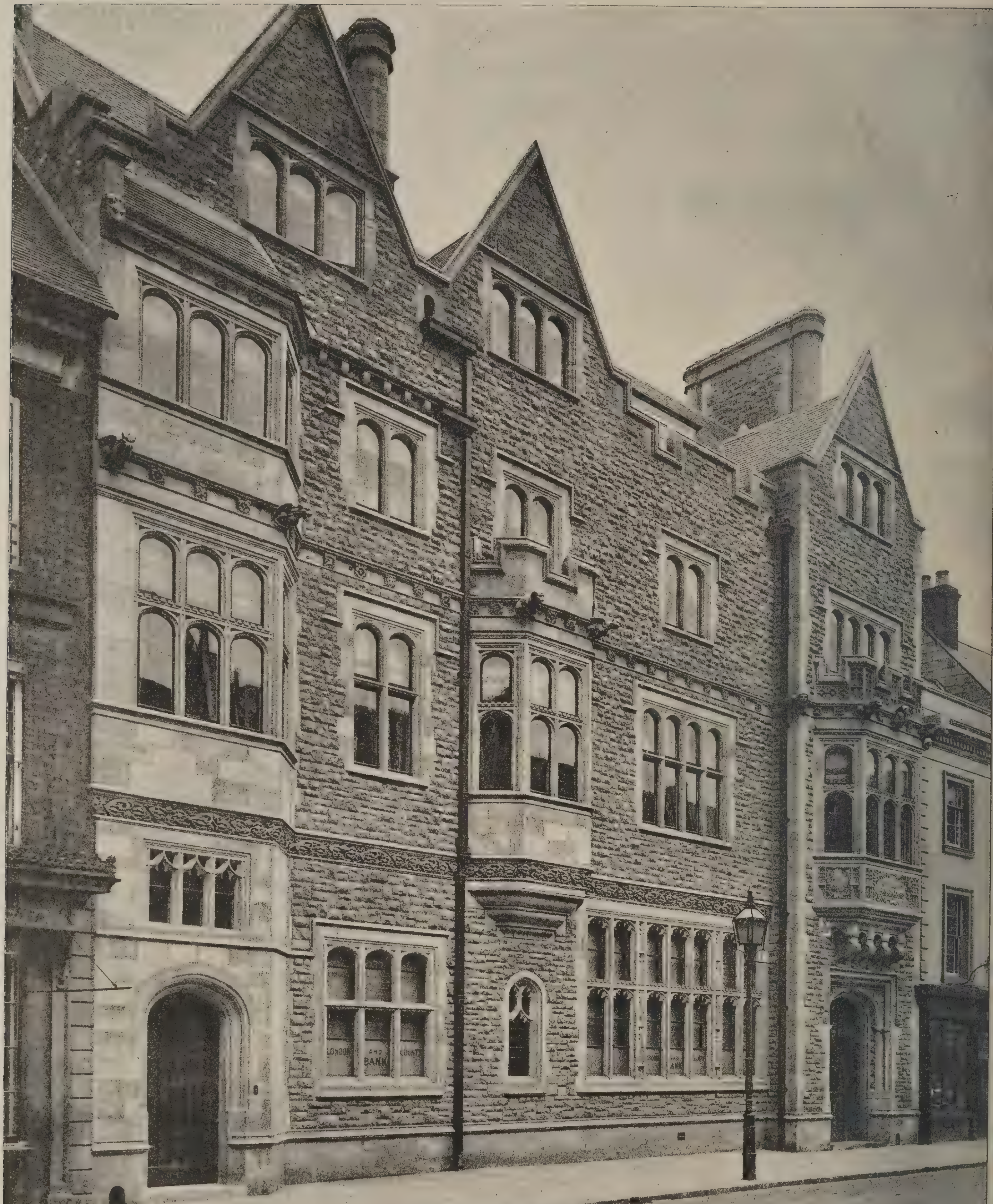
M. J. J. Weerts, the French painter, is now engaged on an immense painting which is to be placed in the new Sorbonne. He has transformed the old theatre of Bois Colombes into a studio. The scene represented shows a crowd on the hill of St. Geneviève in the fifteenth century. All classes belonging to the Quartier Latin are introduced. The picture has already occupied the artist during four years.

The Portsmouth Corporation propose to create stock for tramway purposes. At present it is intended to raise only 556,711*l.*, which will be allocated as follows:—196,811*l.* 2*s.* 3*d.* for the purchase of the tramways, 35,000*l.* for the construction of tramways, &c., and 324,900*l.* for various purposes connected with the tramways.

The Bulawayo Town Council offer premiums of 300*l.*, 150*l.* and 100*l.* respectively for designs for municipal buildings and town-hall. Designs are to be sent in not later than September 2. Full particulars may be obtained from the town engineer on the payment of 2*l.* 2*s.*

M. Dausset, president of the Municipal Council of Paris, has visited London to get hints from South Kensington as to the Petit Palais in the Champs-Elysées. He considered that France has little to learn from South Kensington. He was much struck, however, with the technical schools, filled not with mere students, as in France, but with apprentices allowed by their masters to go and perfect themselves. He also notes that these schools are supported not by the State or local authorities, but by subscriptions, and he would like to see equally fine results secured in France by the same method.

The Architect, June 7th 1901.



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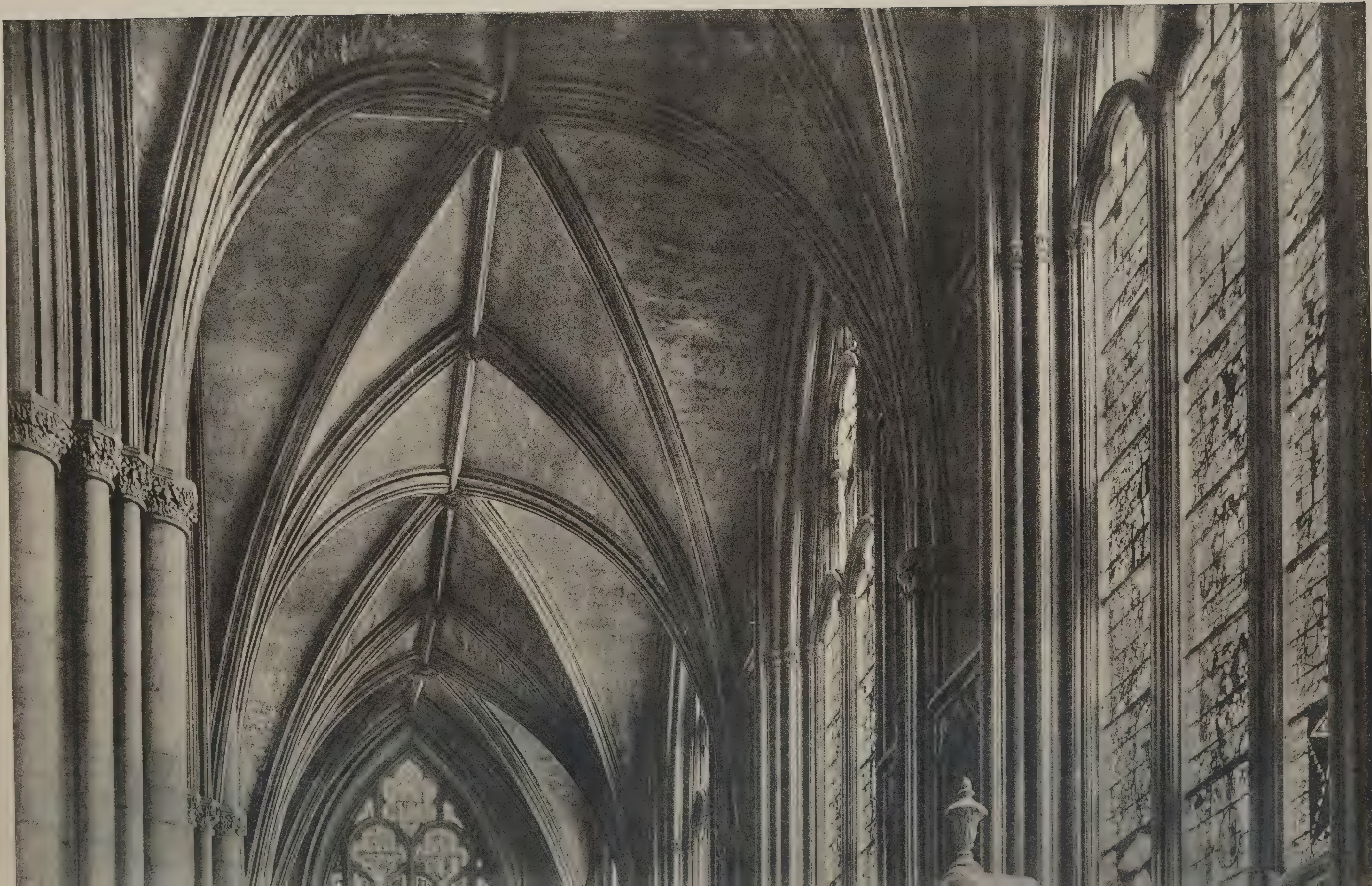

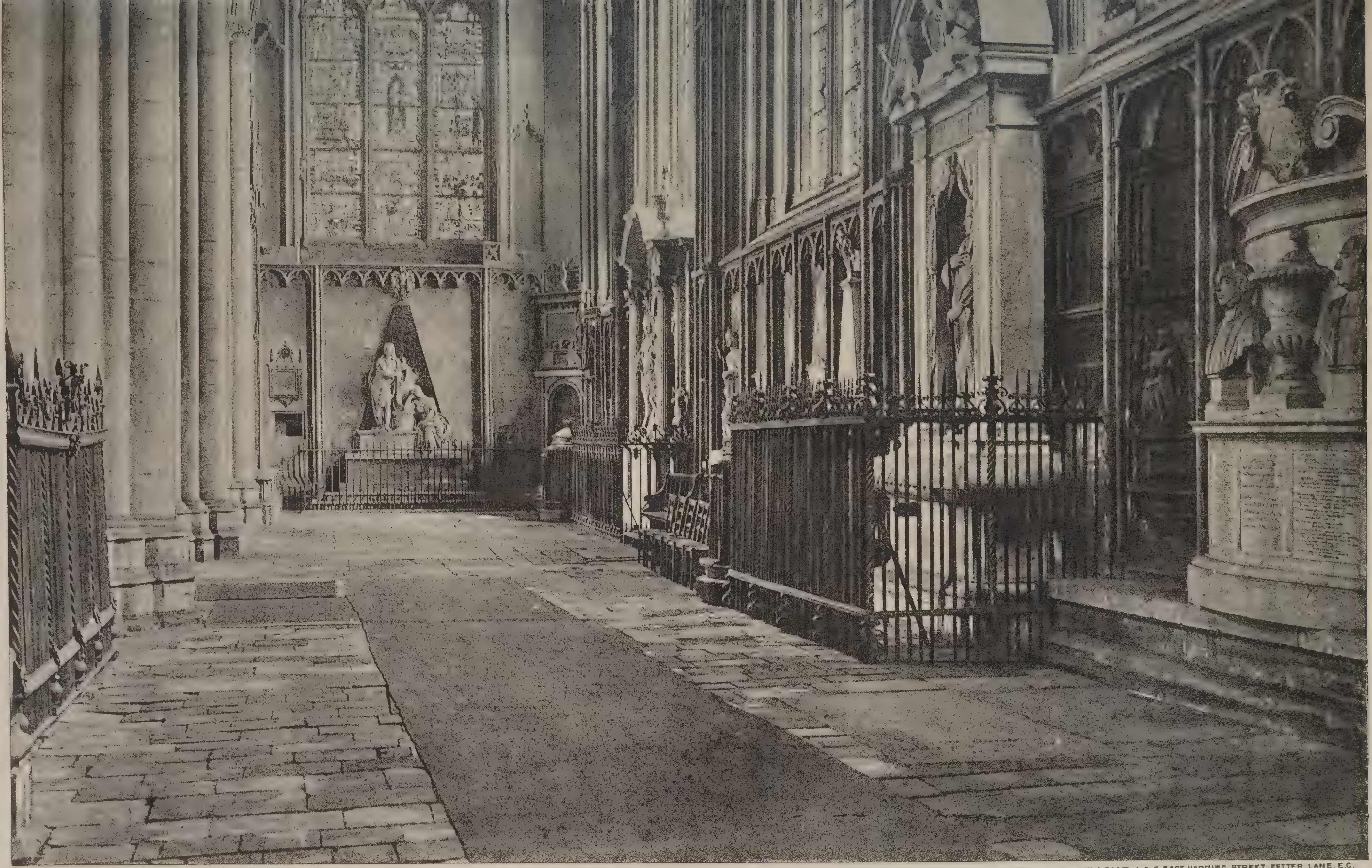

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CATHEDRAL SERIES. No. 337.--YORK MINSTER: SOUTH CHOIR AISLE. HALF LENGTH.

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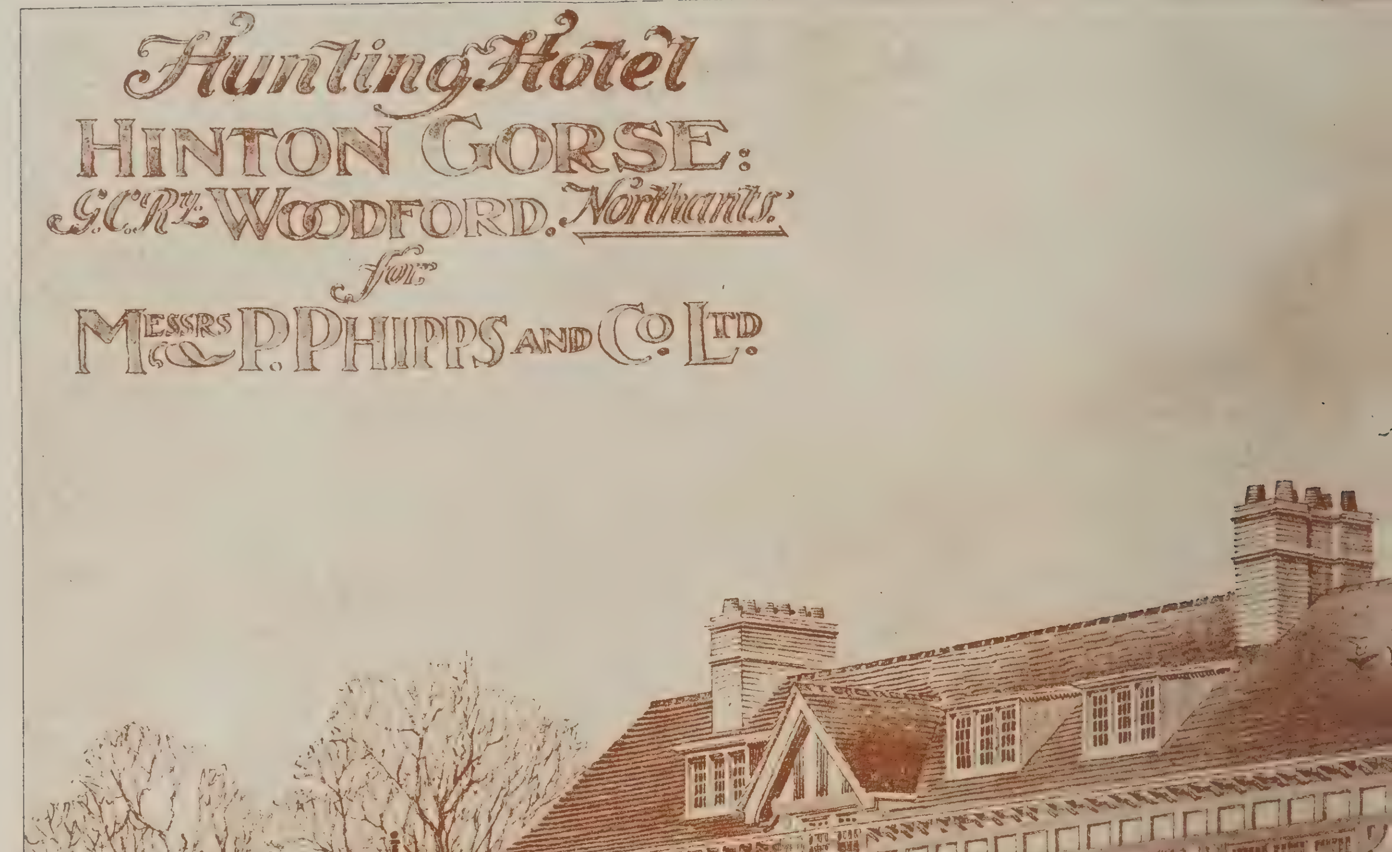
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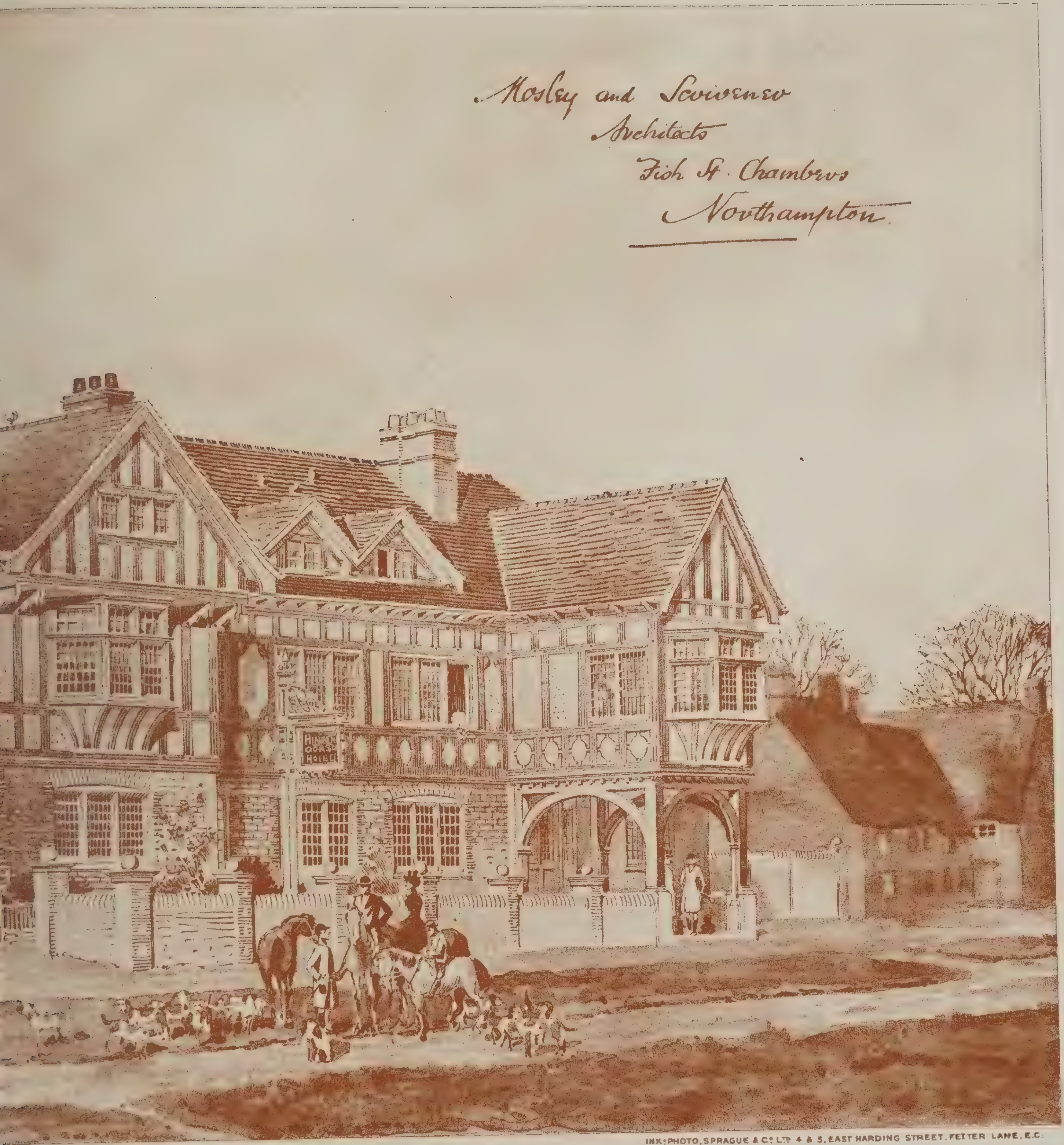

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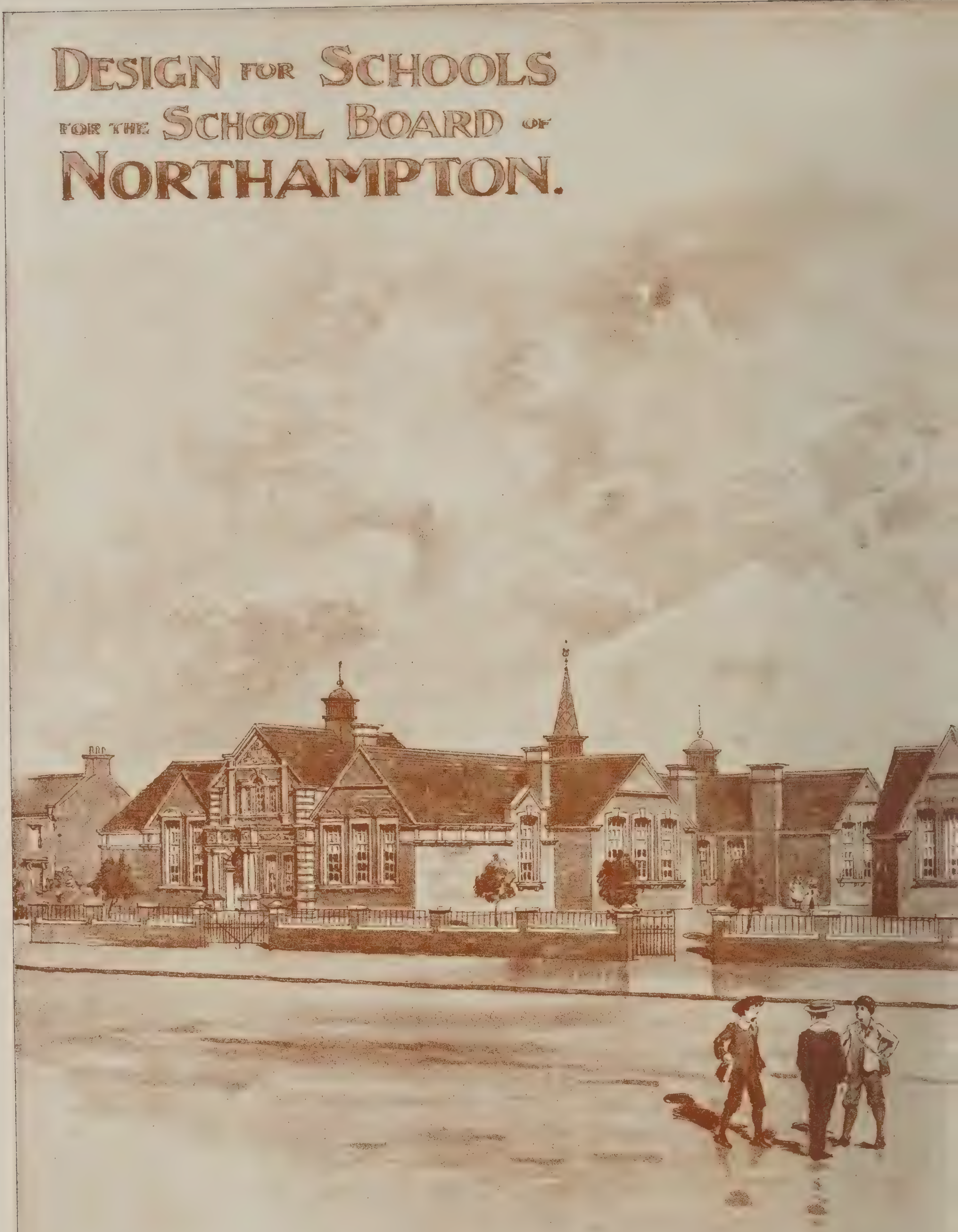
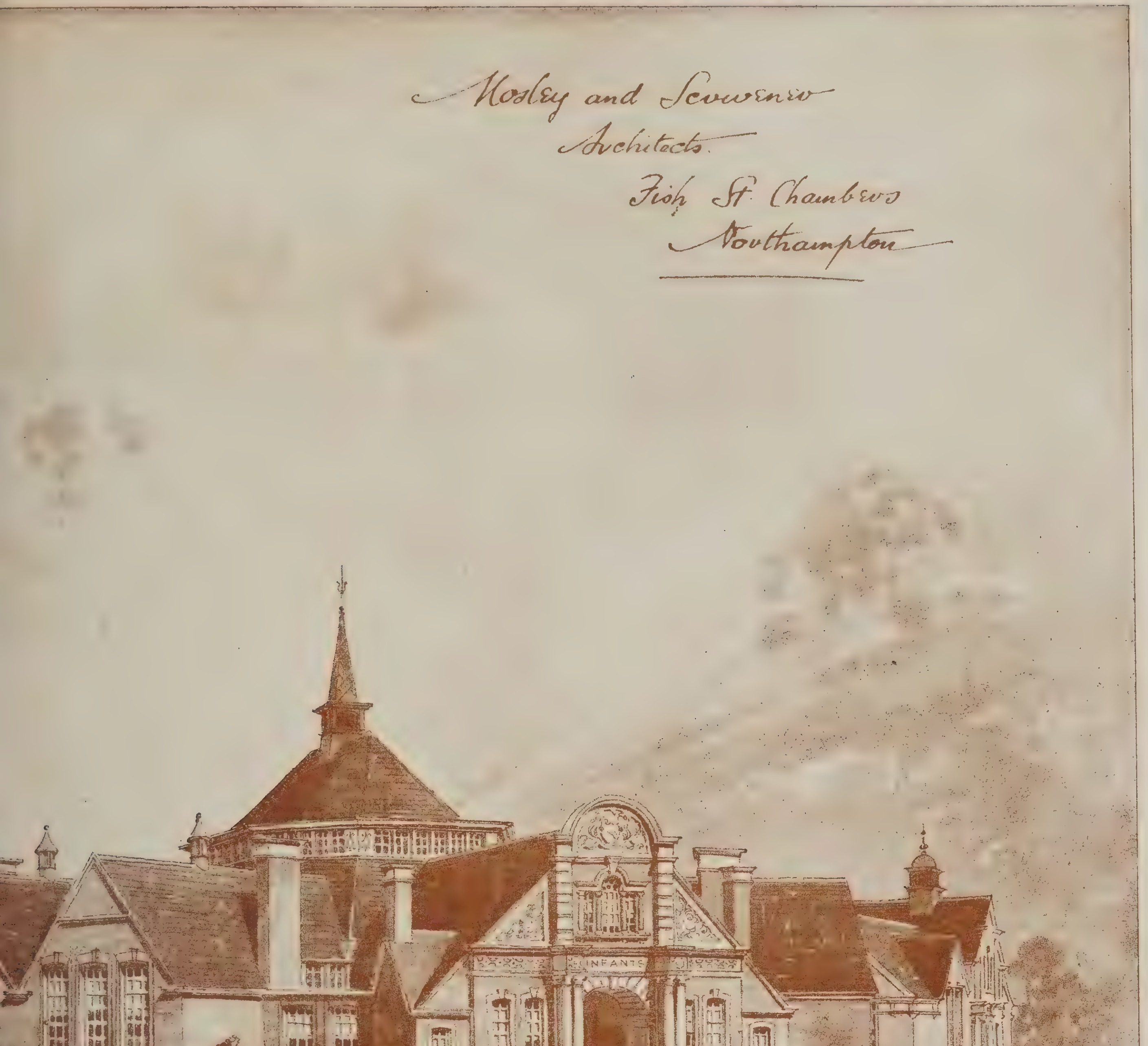

DESIGN FOR SCHOOLS
FOR THE SCHOOL BOARD OF
NORTHAMPTON.



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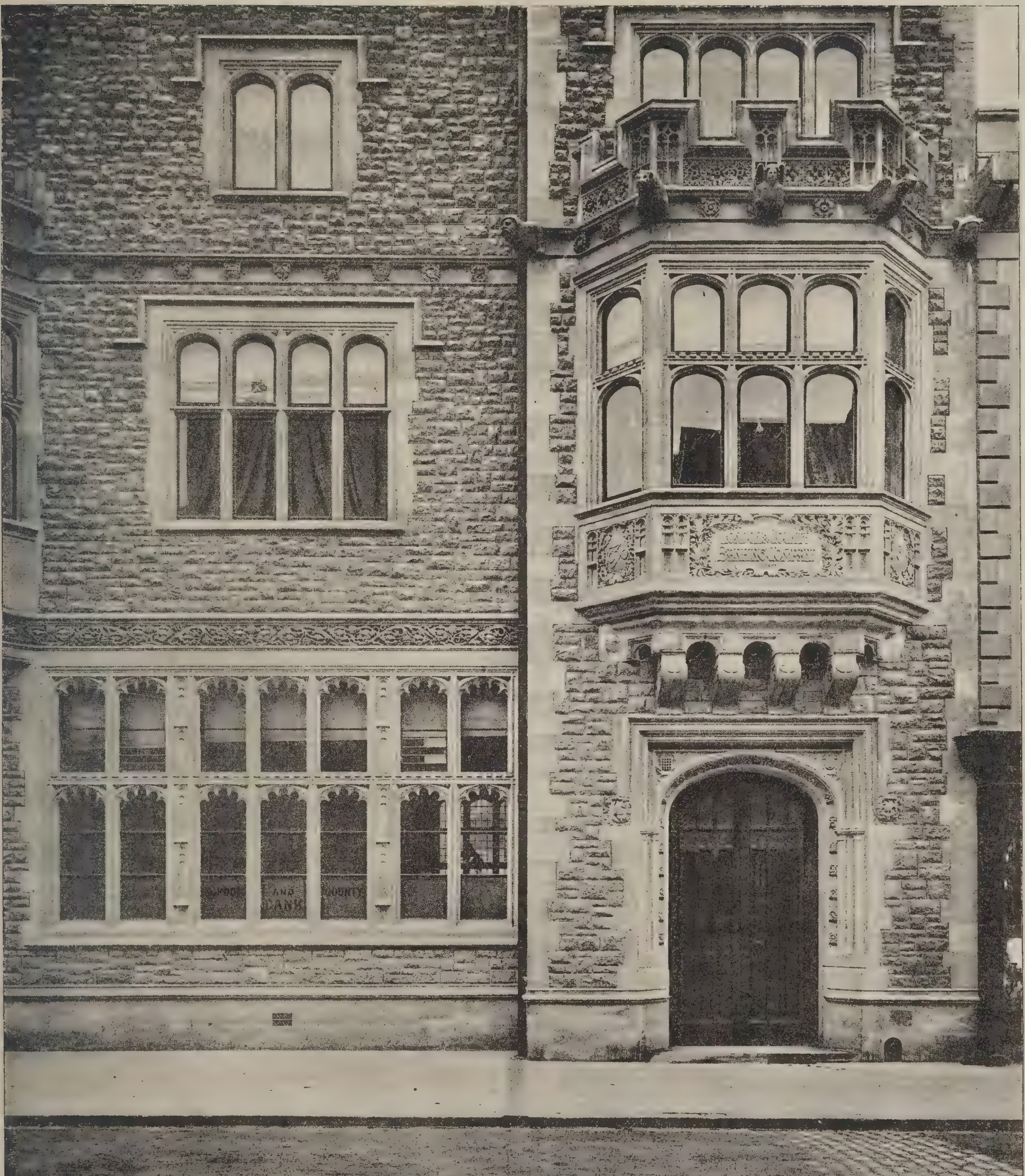

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The Architect.

THE WEEK.

If Battle Abbey could be as accessible to the public in the future as it has been for many years, not much grumbling would be heard about the sale of the property. But when it is known that a purchaser can remove all traces of antiquity and exclude visitors, it becomes the duty of archæologists and members of societies for the preservation of places of historic interest to endeavour to obtain some recognition of the claims of all to a slight share in the possession of the historical Battle Abbey. William the Conqueror, when he stood on the hill of Telham and saw Harold's troops for the first time on Senlac, promised, if he were victorious, to erect an abbey where his rival stood. But four years elapsed before the autocrat was able to respect his vow. The monks of Marmoutier objected to the choice of Senlac as a site, but William was obdurate. He did not, however, live to see the buildings completed. The abbey was wealthy, for the monks possessed all the land within a league, with estates in various parts of England. At the Dissolution the income was nearly 1,000*l.* The property was given to a man named Gilmer, who demolished a large portion of the buildings in order to dispose of the materials. A part of the abbey was converted into a mansion, and at a subsequent time the present residence was erected on one side of the quadrangle. The entrance is through a massive pile known as the castle, which until 1794 was allowed to be used as a town hall. It would be impossible to separate the mansion from the remains of the abbey, and on that account the property may never belong to the country. But the value of Battle Abbey as an investment would not be diminished if the present proprietor made stipulations by which the remains would be respected and facilities for admission insured hereafter.

The Royal cipher stands in no need of ornament to express its power. We can therefore realise the reasons why on the Army badges the design of the lettering is to be henceforth plain without foliation. The cipher is to consist of "E." and "R." impaled, with "VII." inserted in the lower loop of the "E.," the whole surmounted by a crown. No deviation whatever from it will be permitted, and no device or ornament will be placed above or upon it. It is to be hoped, however, that the rule which will be adopted for military badges will not govern other cases in which the Royal cipher is employed. To use simple letters would be a departure from artistic precedents which are of great value. Every student of palæography knows that from an early age efforts were made to add interest to lettering by the aid of the ornamentist. Where letters are used only for records or to impart information they should be plain. But when they perform the office of insignias it is allowable to exercise ingenuity in arranging them so as to form an artistic composition. It has also been decided that the Tudor or Henry VII. crown is to be adopted in preference to any other.

Although the phrase "reasonable wear and tear" has been in use for many years, few lawyers, surveyors or builders would be able to give a definition of it which is applicable in all cases. The action Terrell *v.* Murray, which was heard on Tuesday, suggests the difficulty of arriving at a legal interpretation of the phrase. A lady in 1893 took a house at South Kensington on a lease of seven years. There was no covenant to repair, but it was agreed that the house and fixtures were to be delivered up "in as good repair and condition as they now are, reasonable wear and tear and damage by fire excepted." When the tenant left the owner claimed 112*l.*, and brought an action to recover the amount. The official referee, Mr. Hemming, K.C., to whom the case was referred, reduced the amount to 39*l.*, and it was held that although the necessity for reparation had arisen from lapse of time, that did not excuse defendant from executing repairs. One of the items, it may be mentioned, was repairing a floor which had become affected by dry-rot. After counsel on both sides were heard, Mr. Justice Bruce said he was of opinion that the tenant was bound at the end of the tenancy to deliver up the premises in as good condition as they were in at the beginning, subject to the following exceptions, that was to say, dilapidations caused by the friction of the air, dilapidations caused by exposure and dilapidations caused by ordinary use. He considered that outside painting was not a thing the tenant was bound to do under that covenant. His lordship therefore gave judgment for the defendant. Mr. Justice Phillimore concurred, but said it was not without difficulty.

The long-lost *Duchess of Devonshire*, by Gainsborough, will not be the only work of art which Mr. Pierpont Morgan will be able to carry with him whenever he returns to the United States. With true American enterprise and decision he has been able to acquire in the course of a day the whole of the treasures belonging to M. Mannheim of Paris. There are in the collection examples of Renaissance, German and Flemish sculpture, Italian and French pottery, enamels, bronzes, goldsmiths' work, &c. Several descriptions have been given of the collection, especially one by M. Molinier, one of the conservators of the Louvre. It is possible the English public may have a chance of enjoying a sight of those works of art which have for years been coveted by amateurs. If they were to be taken now to the United States the sum of money required by the Customs authorities to allow them to pass would be large enough to allow of the purchase of another collection of works of art. The owner is, therefore, resolved to keep his treasures in England until there is some abatement of the duties. The expedition with which so valuable a collection changed hands exceeds all that is recorded of such transactions.

When the scabbard was invented, it seemed like a prophetic intimation that steel was doomed to be concealed. Without the aid of the material it would be impossible to erect many of the most characteristic buildings of modern times, and yet how few, except the initiated, are aware of the functions performed by steel. Engineers appear to be more grateful, for in most of their structures they allow steel to assert itself. It is possible, however, that in some important cases concealment will be considered as necessary for the sake of effect. There is, for example, in the grounds of Mr. George Vanderbilt a bridge of 69 feet span, which carries a road over a river. Ordinary people, when they see as much of it as is visible between shrubs and vines which are artfully planted so as to veil the structure, may imagine they have before them a bridge which has been hewn out of some American monolith at a great expense. But in reality the bridge is almost identical with an ordinary railway bridge, with the exception that the lower flanges of the main girders are curved in order to form a flat arch. The roadway is carried by brick arches supported by cross girders. All that, however, is hidden, for the girders are furred in order that expanded metal may be attached, which is plastered with Portland cement, to which a rough-cast finish is imparted. If we may judge by the views, the bridge has, as it were, a countrified appearance, and it may not be long before the rough-cast finish is familiar on lines running through the suburbs of American cities. Some critics will say the bridge is a deception, but the architect who designed it was the late R. M. Hunt, who was an honoured pupil of the Ecole des Beaux-Arts.

The legal proceedings instituted by the authorities in connection with the fall of the "passerelle" which formed the approach to the celestial globe of the Paris International Exhibition have terminated. As we stated a fortnight ago, the architect who obtained the concession, the engineer and the representative of the company that carried out the structure, in turn disclaimed all responsibility. But that plea was not admitted by the Tribunal. Each defendant was sentenced to pay a fine of 600 francs and to imprisonment for two months. The application of the French law Béranger was allowed, and imprisonment will not therefore have to be endured. There will probably be an appeal, but the decision is not likely to be altered.

A MODERN DU BOS.*

We have often referred to the "Philosophie de l'Architecture en Grèce," which M. Emile Boutmy, who was then professor at the Ecole Spéciale d'Architecture in Paris, brought out some thirty years ago. It was a remarkable attempt to explain the causes of the perfection of the Parthenon. The author was not satisfied with the usual technical descriptions of the temple, which he said invariably failed to express the calmness, the clearness, the exquisite instinct of measure, the finesse, the gradation and other qualities which were more characteristic of the building than the arrangements which could be determined by a foot-rule. But to find the desired information it was necessary to traverse a wide field of knowledge. The geography of Greece, the history of its races, the nature of the ideal, the characteristics of form, the Greek senses and intellect, the cult of the Athenians, &c., were among the subjects which had to be considered in order to arrive at a conclusion respecting a subject which, in other words, signified the psychology of the architecture of Greece.

It was shown that from an early age the mission of Athens among the Greek statelings was one of conciliation and elevation. In accordance with that spirit, which was manifested in various ways, the austere architecture of the Dorians was refined to the degree which is visible in the Parthenon. The artists who shared in the beautifying of Athens were no subordinates of a political official. The plans, as M. Boutmy explained, were not prepared in a bureau. The architects were men who could defend their work in a public assembly. The competition between them was exciting, but produced educational effects, and amongst the people there was created an interest which led to the expenditure of large sums of money to obtain whatever was best in the art. The sensitiveness of Greek eyes to lines and colours showed a manner of feeling which differed from ours, and the general hypercriticism must have increased the expense of building.

M. Boutmy believes in the influence exercised by the surrounding country on the Greek mind. The landscape was, he says, a school of temperance, in which the beauty of calmness and harmony was taught every hour within a narrow circle. One result was seen in the limited dimensions of monumental works. The Greek buildings, if compared with the earlier examples of Egypt and Assyria, or with those of Rome in a later age, are like reductions or miniatures. The desire for immensity could not always be suppressed among the Greeks, but the structures seen in Ephesus, Selinus, Agrigentum, Samos, Halicarnassus were outside the boundaries of Greece proper. The Temple of Jupiter in Athens probably assumed the dimensions indicated by the ruins in the time of Antiochus and Hadrian. The logical spirit of the Greeks seems to have been supreme in their architecture, although we can only imagine the end which was in view. M. Boutmy also explains the power that spirit exercised in sculpture as applied to architecture, and it is proved that the frieze and other decorative work of the Parthenon were a necessary part of the temple. In one respect M. Boutmy differs from the majority of writers on the Parthenon, for he holds that the building only remotely testifies to a timber original. The round form of the columns, the basin-like capital, the form of the triglyphs, the mutules, he considers as being no more than very slightly reminiscent of types which were derived from ancient structures in wood. He goes so far as to say that the upper part of the building was treated as an independent temple, of which the architrave was the sub-basement and the triglyphs were the columns. No doubt, he says, the designer only wished to produce a vague impression of independence, but it was of an absolute construction that could be regarded as having an *ensemble* of its own.

The subject of Greek art is not only of perennial but of universal interest. The success of the old artists seems so unattainable, any exposition of their superiority, although only speculative, must always be received with the attention which is given to all solutions of mysteries. The case is different when the English and their attempts to produce art are taken as subjects for an investigation on a similar basis to that adopted by M. Boutmy for his "Parthenon and Greek Genius." Every Frenchman who has studied the literature of his country must be assured that in the eighteenth century French logic, through the agency of philosophers like the Abbé Du Bos, demonstrated beyond contradiction that the English people were deprived by nature of the least capacity for the arts. The ground on which the English people walked, the air they breathed, the materials they employed for food as well as their physical conformation, combined, according to the dialecticians, to make them cold and unfeeling, to deprive them of imagination and taste, so that all they could do was only admirable for mechanical execution. Even Winckelmann, who should be accepted as free from French prejudices, declared that the English aptitude for art was so insignificant it was not worth consideration. In fact, if Englishmen were disposed to rely on the deductions of foreign critics they would long ago have despaired of accomplishing anything which would entitle them to a place among civilised peoples.

We do not believe, therefore, that M. Boutmy will surprise his countrymen by the novelty of his remarks about Englishmen and their failures in art. He will, however, confirm what has been said by men who gave less attention to the subject. His treatment is moreover in accordance with modern methods, and on that account will no doubt obtain interest. Besides, as all men are prone to self-congratulation because they are not like their neighbours, his essay of 450 pages will of course gratify Frenchmen when they learn that science can prove their superiority to the arrogant islanders who, in spite of their defects, contrive to monopolise universal attention.

M. Boutmy accepts the shrewd observation of Charles II., who said that England had the finest climate in the world, for it was possible to spend more time in it out of doors than in any other country. He also allows that the soil is more fertile than in most northern countries. There are privations, but they compel the Englishman to be industrious and to utilise constantly his foresight and self-control. The necessity of vigorous action in order to keep the body in health leads to an enjoyment of exercise for its own sake, so that sport in England is less a diversion than a physical requirement, which is as imperious as thirst or hunger. But the condition of the climate, however promotive of bodily activity, makes mental operations rather tiresome. There is less yielding to imagination, and consequently surgical operations are more likely to succeed with Englishmen than with people of southern climes. The English are also from absence of imagination impassible on the field of battle, and, unlike the French, there is no need to overcome the agitation which arises from visions of broken bones and the agonies of lockjaw by that "fuite en avant" which so many simple people imagine is evidence of headlong bravery instead of weakness. M. Boutmy is too philosophic to ignore the good effects which circumstances have produced among us as among the ancient Greeks.

"Le ciel britannique," however, is, according to M. Boutmy, of little advantage in the intellectual development of the people. With light so dull and when objects have to be regarded through clouds of rain, the forms observed become indefinite and appear to be all of a uniform grey. Only the hardest reds and greens have a chance of striking the senses. The outer world acts upon the mind, and compels it to seek pleasure in itself rather than in exterior scenes. Wordsworth, the poet, used to be blamed because the mountains and torrents, the wild flowers and even the weeds of Westmoreland and Cumberland were allowed to monopolise his attention. But relying on one short poem, M. Boutmy maintains that what he describes are spiritual impressions, and that he neglects visible objects. Shelley also, he says, had never seen nature but in his dreams. It is needless to remark that those who have given much study to Wordsworth and Shelley will not agree with these views. There was, it is true, a time when the influence of the men called by Johnson "metaphysical poets" was accepted by writers of verses throughout Great Britain, and external nature was not much of a factor in their productions. But a reaction followed, and poets seemed to take inspiration from Chaucer and the Elizabethan masters by becoming objective as well as subjective. In all literature there is no poem which can be said to be more expressive of "une imagination longtemps repliée sur elle-même et trempée dans le fonds moral de l'homme" than Tennyson's "In Memoriam." But the outer world has to do suit and service towards the expression of the poet's sorrow. From the "old yew, which graspest at the stones that name the underlying dead," to the last red leaf that's whirled away; from the wych-elms that counterchange the floor of the flat lawn with dusk and bright, to "the deep tulips dashed with fiery dew," the vegetable world becomes subservient. Air and water are also tributaries. Even construction is not neglected, from "the long unlovely street" which bears the name of Harley up to the "cloud towers by ghostly masons wrought."

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* *Essai d'une Psychologie Politique du Peuple Anglais au X*^{e} *Siècle.* (Paris: Librairie Armand Colin.)

The attention to external things which is characteristic of English poets for over a century would be manifest to M. Boutmy if he looked over an illustrated edition of their works, or consulted a catalogue of the Academy or most other exhibitions of paintings. Whether England was made by nature in one of her dyspeptic or hypochondriacal moods is out of the question, but there is no doubt that she bestowed on the land innumerable objects which poets have turned to account, and with their verse inspired painters.

It appears to us that M. Boutmy suggests the fallacy of some of his own assertions. He maintains that general ideas are unknown in England, for we are deficient in the power of generalising and abstracting. But the inability, assuming it to exist, could only arise from the way in which concrete objects attract the mind. Royer-Collard, when he said he despised a fact, was no doubt a type of the French race that is prepared to meet the horrors of war for the sake of an idea. But in England we love facts and allow them to govern regardless of their disagreement with our past actions, and one reason for our peculiarity is that we much prefer a rose to any abstraction of a rose. Hence it is there is much difficulty in persuading people that photography with its fidelity of representation is not art, and that writings which are little more than catalogues of objects are not examples of pure literature.

According to M. Boutmy the latitude of England corresponds with Holland and Germany. But our people have not attained the excellence of the Dutch in painting or of the Germans in music. Architecture and sculpture also show our want of originality. The reason is in a great measure ascribed to the absence of all conditions which produce a great art. In the first place is the unlucky atmosphere which is M. Boutmy's *bête noir.* Instead of seeing things in their true gradation, as would be the case with abundant light, the Englishman, he says, can see objects only through a mist or a fog, and is unable to judge of contours or of their colouration. He is therefore compelled either to depend on his imagination, or to give imitations which are scientific rather than natural. The most important school of painting in England, according to M. Boutmy, is that represented by Rossetti, Watts and Burne-Jones. The precursor of the pre-Raphaelite and Realistic schools is said to be Madox, meaning of course Madox Brown, who visited Paris in 1844. Madox Brown made no secret of his aversion to French art, and resolved to adopt a practice that was opposed to that of the French school. M. Boutmy says Madox Brown was unable to judge of what he saw, for his eye was accustomed for centuries ("habitué depuis des siècles") to see images without any relief or consistency, and neglected the richness of colour which nature spread over a scene. His own works show a hesitation between copying superstitiously the living model or presenting an interpretation of objects entirely speculative. English painting, says M. Boutmy, is essentially "intentionist." It pursues an aim that is beyond painting, and to attain it employs a process that is literary. English painting is also expected to be didactic. There is consequently an indifference to the equilibrium of the masses, and we suppose he was thinking of the pictures of the latest foreign associate of the French Académie des Beaux-Arts when he says "the figures can be grouped in a corner, leaving the rest of the canvas empty." But if the idea is expressed more clearly in that way, of what can the spectator complain? The colours are chosen and laid on without any regard to their hierarchy, for those who look on them are habitually accustomed to see things obscurely, but everyone is satisfied so long as the idea of the painter can be interpreted. M. Boutmy, however, willingly acknowledges the profundity of the thought, the novelty of the gestures and the singular beauty of the human form in the pictures to which he refers, but the want of the principles which are inculcated in foreign schools depreciates the value of English works.

It would be vain to reply to M. Boutmy by asserting that English painting is perfect in the academic sense, because Delacroix somehow considered a collection of the examples as "ravissant." The humblest journal in the land would not hesitate to descant on the shortcomings of all the Academicians. It cannot be said that we have a code of rules in painting which all English artists recognise as authoritative. But it is not to be expected that the youngest school in Europe should rise superior to those on the Continent which have taken an infinitely longer time in forming their character. In any historical exhibition of paintings the English school can only appear as an upstart. It can show only a very brief pedigree, and can refer to few traditions. That is in a large measure to be traced to the importance that was attached to foreign works. A similar weakness was observed in music. Until quite recently it was taken for granted that only Italians could sing properly, and were the sole exponents of operatic music. The Germans, however, set us an example of independence, and by slow degrees we mustered up courage to imitate them. Now it is found that English composers and English singers can realise the operatic idea, and before long we may expect to find English music securing a hearing in the chief cities of Europe. Varied as are the defects which M. Boutmy notes, he does not give any attention to that self-depreciation which makes English people so often believe they must be inferior to men who were born and taught abroad.

Although we cannot agree with all M. Boutmy's conclusions, we wish he had devoted a much larger portion of his book to the fine arts. He would, no doubt, consider our cathedrals and churches to be inferior to those of France, and it may be to those of Germany, yet we should be more glad if he had called his book the philosophy of architecture in England, and made that branch of art predominant. At the present time, however, England is known abroad as a political Power more or less distrusted, and a treatise which explains why the English are not philanthropists who are ready to sacrifice themselves and all they possess for the benefit of their enemies, must have more attraction for the customers of bookshops in Paris and in the French towns. Fortunately England is not much moved by foreign criticism. With all the world as our rivals we cannot wait to put our psychology in good order. When the millennium arrives it will then be time enough to begin and decide whether that filtration of our nervous juices which, according to Du Bos, was the main cause of all our evils, may not be accomplished by a finer or coarser process.

THE ROYAL INSTITUTE OF ARCHITECTS IN IRELAND.

A SPECIAL meeting of the Council of the Royal Institute of the Architects of Ireland was held at the Institute rooms, 20 Lincoln Place, on Wednesday, June 5, Sir Thomas Drew, F.R.I.B.A., the president, in the chair. There were also present—J. Rawson Carroll, C. A. Owen, Frederick Batchelor, George P. Sheridan, Charles Geoghegan, Wm. M. Mitchell and W. Kaye Parry, hon. sec.

The following resolution was passed unanimously:—

The attention of the Council of the Royal Institute of the Architects of Ireland has been directed to recurring instances in which county surveyors, under the new establishment of county councils, are engaging in private practice both in architectural and engineering work. This Council are of opinion that in the interests of the public service it is desirable that the county councils should avail themselves of the powers conferred upon them by section 115, sub-section 18, of the Local Government (Ireland) Act, 1898, for the purpose of making such arrangements with the county surveyors as will enable them to devote the whole of their time to their official duties.

CROWHURST AND CROWHURST PLACE.*

THE village of Crowhurst, the home of the Gaynesfords and Angells, although small and scattered, is well known by Surrey tourists and cyclists. It stands on deep clay, and, as its name indicates, in ancient times thick woods abounded in the vicinity. The Angell family occupied what is still known as the "Mansion House," which dates from the time of Henry VIII., although none of the State rooms remain.

For many centuries the Gaynesford family resided at Crowhurst Place, which only quite recently passed from the trustees of the Marlborough Charities into the hands of Mr. Henry Partridge, through whose courtesy we to-day saw what remains of its former splendour. When the Gaynesfords first took up their abode at Crowhurst is uncertain, but Aubrey states there is a record that the family resided in the district before the Norman Conquest. There is no doubt, however, that from 1337 until after the close of the seventeenth century different members of the family were lords of the manor. Crowhurst Place was probably built during the early years of the reign of Henry VII., and it is just possible it may have been completed before that monarch ascended the throne in 1485. Henry VIII. is said to have visited the house on several occasions when passing through the village to win the affections of Anne Boleyn, who at that time resided at Hever Castle, only a few miles distant.

As was frequently the case in houses erected about the time Crowhurst Place was built, the design was very simple. In the centre was the hall, on one side of which was the principal entrance. What was known as the "entrye," or the "screens," forms a passage through the house from front to back entrances, which are directly opposite. As we noticed, there are three doorways in the "entrye" at Crowhurst Place. The first of these doors opened into the "parlour," the second led to the staircase, and the third to the kitchen and domestic offices. At the upper or daïs end of the hall were several rooms of a private character, with sleeping accommodation in the upper storeys. No gallery over the "screens," for the use of the musicians who played on festive occasions and while the family were at dinner, seems to have been erected here.

The sides of wooden or "timber" houses built in the Middle Ages, such as that we have viewed to-day, were generally constructed in the following manner:—Stout wooden sills were laid horizontally fully a foot above the ground-line, resting upon underpinnings of stone or brickwork. Massive upright storey-posts were then placed upon the sills at the angles, from 7 to 10 feet apart. Several of those used at Crowhurst Place were 14 inches by 8 inches in the section, and some of those in the interior of the house were elaborately moulded. These posts supported horizontal timbers, which in turn carried horizontal heads of timber, into which, also into the sills, the uprights were framed and tenoned, being secured together with wooden pins. The intervening spaces were again divided by smaller timbers, and the spaces between these timbers were latticed up with wattlework—usually sticks or laths plastered over with well-mixed clay and held together with chopped straw. Occasionally the quarters had ploughed grooves in the edges, and a board introduced between each pair to serve as a panel. This plan would be noticed in some of the upper apartments, particularly in the room over the "parlour."

Until early in the seventeenth century the art of staircase building was not generally understood. Prior to that date the stairs were either within a turret and wound round a centre newel, or as we saw at Crowhurst Place, formed a steep approach between partitions. The steps leading from the "entrye" to the upper rooms were composed of solid blocks, and a massive oak handrail was placed at the side, the last vestige of which has now disappeared. The covering of the roof was Horsham slate, which at that time was both plentiful and at hand, two factors in those days which favoured its adoption for roofing large mansions in this part of Surrey, as the roads were anything but good thereabout. This material is really thin flakes of stone which could be easily cleaved; but being much heavier than our present-day slates or tiles the roofing timbers had to be proportionately substantial to carry the weight.

Late in the eighteenth century Crowhurst Place was considerably "modernised," several of the timberings of the sides of the lower storey being removed, and bricks and mortar took their place. There is still, however, evidence remaining that portions of the house had what are termed "oversailing" or "jetty" floors. It is probable, too, that at this time the original window frames of the hall were removed, and about one-half of the roof received the covering of tiles we noticed, the other half still being covered with Horsham slate, as are also most of the outbuildings. As to the position of the windows there is not much doubt. Most likely they were situated along the full length of the upper portion of the sides, between the main posts of the framed walls, and divided into many lights in width by mullions, and into two lights in height by a transom. One of the windows we saw at the top of the stairs from the "entrye" in the end wall of the house has still the three ostrich feathers of the Prince of Wales, with the words "Hic Dien" on the quills. (Possibly this is a perversion of "Ich Dien.") On each quarry of the glazing the badge of the Gaynesfords—the grapnel with double flukes, attached to two ropes or tassels—is conspicuous.

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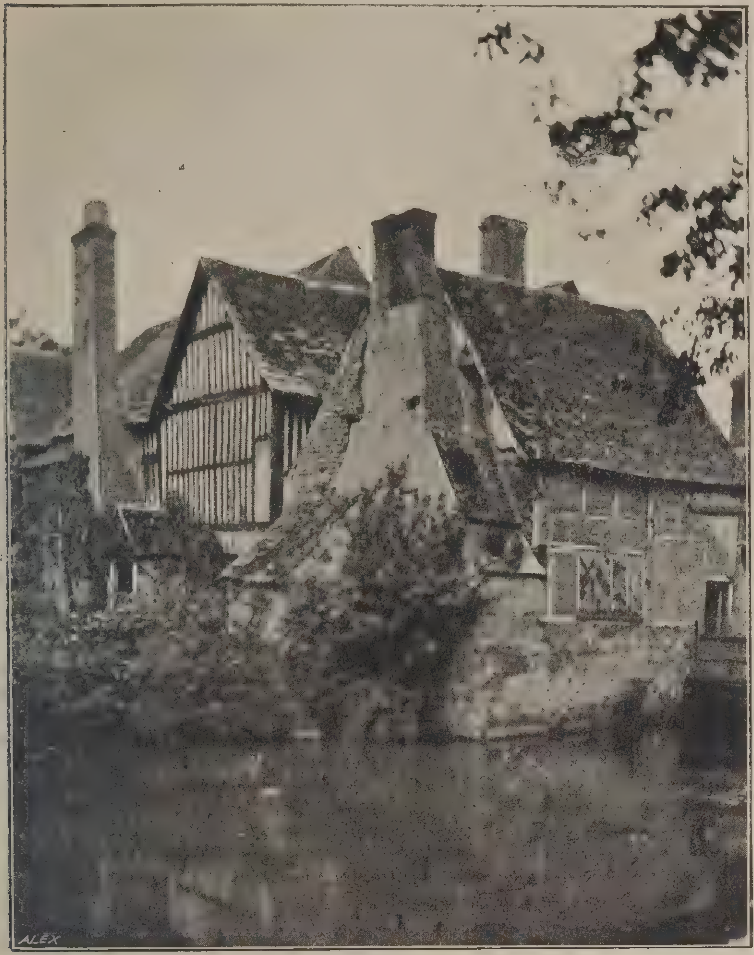
* A paper read by Mr. W. H. Truslove at Crowhurst, before the members of the Upper Norwood Athenæum on June 1.



In spite of the partial destructions and modern alterations which have been carried out at this moated house since its erection, several of the rooms still contain much of the original work, and supply us with many examples of the immense amount of labour bestowed upon woodwork at that date. Except that the louvre has disappeared, the roof of the old hall is still almost perfect, the timber used being at present in a sound state. For its size and date there are few, if any, modern houses existing where the roof affords a better example of the skill and care bestowed upon its carpentry, and a short description of the mode of constructing this fine and symmetrical piece of joinery may not be out of place here. There are three stoutly-framed principals—one at either end—and the third crosses from side to side about the centre of the hall. These are furnished with tie-beams, under which are large curved braces forming four-centred arches across the hall. These, again, are firmly framed into the tie-beams and into the upright supporting storey-posts of the sides, firmly secured with wooden pins, iron bolts at that date not being used. On each of the tie-beams rests a large wooden arch, which in turn supports a collar beam. This, with the important rafters, completes the truss of each principal. The trusses support the longitudinal timbers, the purlins and the beams, which carry the common rafters and minor timbers.

The room over the "parlour" at the lower end of the hall, too, has been the recipient of careful treatment, the only thing lacking to show its appearance when it left the builder's hands being the original window. In the large apartment at the upper end of the hall a finely-framed ceiling, with girders and plates is intact, the large joists being beautifully moulded wherever the opportunity presented itself. Many of the original doors are yet in use, the fastenings of which generally consisted of latches, a ring handle on a plate raising the latch on one side.

At the time Crowhurst Place was erected much of the furniture was fastened to the walls, seats and benches in particular. We noticed the settee fixed to the upper end of the hall, which in all probability was constructed at the time the house was built, as the mouldings correspond with those of the doors. This is most likely to have been the daïs seat, although the floor does not seem to have been raised, as was usually the case. The tables at that time consisted of long planks placed on trestles. For couches, sofas or lounges one had to look in vain.

The moat surrounding Crowhurst Place is still in perfect condition, and it would be observed that it is now crossed by two bridges; also that the kitchen and other domestic rooms rise almost directly out of the water. Moats, however, are by no means uncommon in Surrey and Sussex. Many of the mansions in bygone days were surrounded by water, not so much as a means of defence as to prevent thieves and vagabonds pursuing their nefarious callings.

In bidding farewell to this once stately moated grange one cannot but express regret that this fine old house was allowed to crumble and decay when a small sum spent periodically upon it would have given us one of the finest timber houses erected in the county of Surrey. Those of us who inspected Tangley Manor three weeks ago must have been struck with the contrast between that and what now remains of Crowhurst Place. All here, I am sure, will hope that the present owner may be able and willing at least to partially restore and preserve such a valuable specimen of the builder's art in the Middle Ages.

The Church.

Crowhurst Church, dedicated to St. George, stands on high ground, and is a prominent landmark in the neighbourhood. It is in the deanery of Ewell and in the valor of Edward I. its value was set down at 100*s*. Portions of it range from the Early English to the Perpendicular. In the parish register is an entry dated 1652, which states that it had "lien in heaps a long time," but at that date was "made plain and repaired." The construction of the font is very simple, and is probably

coeval with the church, which was built in the first half of the thirteenth century. At present the sacred edifice consists of a nave and chancel, with a small south aisle. All the windows (with one exception) are now of stained glass. The only entrance is on the south side, the door being formed of five oak planks, firmly secured together with iron bands, and the peal in the belfry consists of but three bells. In 1852 the church was repaired, the timber roof at present existing was constructed and the decorated windows on the north side inserted. The present vicar is the Rev. H. H. Williams.

The two mosaics, which might easily be mistaken for frescoes, on either side of the altar, were placed there to his loving memory by the widow of the late Lord Cottenham in 1880 or 1881. They are the work of Mr. Powell, who is now engaged upon the frescoes at St. Paul's, and the two represent the Virgin Mary and St. John.

The principal monuments relate to the Gaynesford and Angell families. The earliest on the north side of the chancel is an altar tomb of Purbeck marble, with quatrefoil panels in front. On the top is a full-length figure in brass of John Gaynesford, "Senior," as he was styled. He is in plate armour, with sword and dagger, and his feet rest on a lion. A Latin inscription on a brass tablet reads :—"Here lies John Gaynesford, Senior, Esquire, who died 19th July A.D. 1450." His coat of arms was a chevron gules between three greyhounds statant.

On the south side of the chancel we find a monument to the second John Gaynesford, son of the above, who was called "Junior," and who died in 1460. His wife Anne, a daughter of Richard Wakehurst, was also interred near him. His coat of arms included that of the Wakehurst family—a chevron engrailed argent between three falcons argent.

Also, within the altar rails, a remarkable cast-iron grave slab is to be seen, on which is represented a female figure in a winding sheet, supposed to be Mrs. Anne Forster, daughter of and heir to Thomas Gaynesford, who died in 1591. On either side are two small figures in a kneeling posture, intended, no doubt, to represent sons and daughters of the before mentioned Anne Forster, as the inscription indicates, notwithstanding that some of the letters are omitted, and the S's inverted. The F also is very peculiar. The top horizontal portion of this letter is placed at the bottom, giving it somewhat the appearance of a capital L; or, in other words, the letter is both upside down and the horizontals on the opposite side. The full inscription, in raised Roman characters is as follows:—

HER : LIETH : ANE : ȽORST
R : DAVGHTER : AND :
HEYR : TO : THOMAS :
GAYNSȽORD : ESQVIER
DECEASED : XVIII : OȽ
IANVARI : 1591 : LEAVING
BEHIND : HER : II : SONES
AND : V : DAVGHTERS.

Inside the altar rails, too, are to be found separate black marble slabs with long Latin inscriptions. One is to the memory of John Angell, who died in 1670 in his seventy-eighth year, and of whom it is stated he "bequeathed his soul to God, his body to the earth, his faith to the Carlists, and his example to his children." The other is in memory of William Angell, who departed this life in 1674, in his fifty-second year.

On the south wall is a black marble tablet "enchased in white" to the memory of Justinian Angell, who married Elizabeth, eldest daughter of John Scaldwell, of Brixton Causeway, and I am informed on good authority that it is after this lady that the present Angell Road, Brixton, received its name; also that Crowhurst Road, Brixton, which is near by, derived its title from the fact of this lady's residence at Crowhurst.

In the small south aisle the window is Early English, and it would be noticed on close examination that a window of a later period has been inserted into it. There, too, will be found a marble slab, of which the brasses are missing, except one-half of a tablet. The other half, the Vicar informed me, has been found quite recently at the "Mansion House," previously mentioned, and it is intended to refix it shortly. This tablet is to the memory of Anne, one of the six wives of Sir John Gaynesford, and daughter of Sir Thomas Fynes, Lord Dacre. The Sir John referred to was interred at Guildford in 1543.

There are also monuments in the church to the memory of Thomasine, wife of Richard Marryott, and a daughter of John Angell; to Richard Cholmley, cup-bearer to King Charles; to the wife of Nicholas Gainsford; and a modern one to James Donovan, and Margaret, his wife.

The Yew Tree.

Very prominent in the churchyard is the enormous hollow yew tree. This is without doubt the largest in Surrey, and 5 feet from the ground the girth is no less than 32 feet 9 inches. Its age is certainly fully 1,500 years, and 1,600 would probably be nearer the mark. About 1820 some busybodies ruthlessly hollowed the tree out, and placed a table in the centre with benches around to seat quite a dozen persons, and it is affirmed that the annual Easter vestry meeting was held inside it for some years. Until about 1850 a fair—or, as our Lancashire and Yorkshire friends would say, a "wake"—was held under its boughs every Palm Sunday. The cannon ball we saw is stated to have been found in the centre of this huge tree.

Gentlemen, in concluding this my first paper in connection with the Upper Norwood Athenæum, I must acknowledge the assistance I have received from Baily's "Timber Houses" and Brayley's "Surrey." I would also thank Messrs. Harradence and Stanley for many valuable hints as to the mode of arranging this ramble, and to you gentlemen for favouring me with your company; also for the patience you have displayed in listening to this what I am afraid you will consider a somewhat monotonous paper. I ask your indulgence, however, on the ground that it is my maiden essay as a leader and antiquarian, trusting all have had an enjoyable country ramble, which may set off some of my shortcomings.

TESSERÆ.

The Census in Ancient Rome.

THE first census of Rome on record is that held by Servius Tullius in the year of the city 180. The number of citizens at that time was 80,000. In the first census after the expulsion of the kings, held in the year 245, there were 130,000. But in the fifty-seventh lustrum, the last that was held in the republic, in the year of the city 683, the number of citizens—which, in addition to the inhabitants of Rome, must have included a number of the principal personages among their allies—amounted to 450,000. In the civil wars and the empire the citizenship was so promiscuously bestowed, that in the last census held by Augustus the number rose to 4,137,000. When the Emperor Decius, in the year 104, wished to restore the censorship, the attempt was found impracticable, as Caracalla had extended the citizenship to all the inhabitants of the Roman empire.

Indian Architecture.

In any attempt to understand either the history or the arts of India it is important to bear in mind that the population consists, as it has always done, in historical times at least, of two races of men widely differing the one from the other—the Tamul race, inhabiting the southern part of the peninsula, and that race which, from various western sources, first settled between the Indus and Ganges, and which afterwards progressed eastward to Calcutta. Owing to the very spirit of their religion, this latter class were not temple builders. They would have thought it impious to rear with human hands a house for the one Great Spirit of the universe, as was the case in Persia, where, even when Darius had learnt from more western nations some notions of architectural magnificence, the buildings which were raised were palaces rather than temples. The Grecian temples were borrowed from Egypt; the Roman from Greece and Etruria, and our own from Rome. Among the early Indian tribes it would, therefore, be vain to look for any monuments of importance. It was not till the seventh century before the Christian era that the Buddhist religion was introduced, and consequent on this change was the elaboration of a style of architecture the most ancient as well as the most interesting of those whose monuments are found scattered over the plains of India.

Architectural Effect.

A very obvious mode of obtaining architectural effect is by the largeness or expensiveness of the materials employed. The first of these means is at once apparent, provided that certain portions are sufficiently defined as to positive bulk to enable the spectator to form a correct judgment of the real magnitude of the whole. The grandeur of the Arc d'Etoile, at Paris, is overwhelming on a near inspection, yet at a short distance how false is the impression. That gigantic mass, so beautifully finished and detailed, has then nothing to suggest its being other than an ordinary sized work, simply because every part is equally magnified, even to colossal sculpture and masonry. Its standing so detached, too, helps the illusion, and it is only when some pigmy individual at its base is taken into account that a true conception can be formed of the actual fact. The same defect is inevitably noticeable in the interior of St. Peter's at Rome. In the Middle Ages the architects not only aspired to the erection of majestic edifices, but they learnt how they might greatly increase the apparent dimensions of a building by a scientific disposition of the parts and a skilful arrangement of ornament, making it look very much larger than it really was. Yet Mr. Fergusson, while admitting this, does not allow to their works the effect of massive grandeur. They "sought to replace it," he says, "by the display of constructive skill in the employment of the smaller materials they used, but it is extremely questionable whether in so doing they did not miss one of the most obvious and most important elements of architectural design." But if a drawback this be, it is an error on the right side. The primary use of materials is to construct, beyond this building merges into ornament. Still, for the sake of this latter, an architect ought always to allow himself such a margin of strength that he may disregard or play with his construction, while in nine cases out of ten the money spent in obtaining this solidity will be more effective architecturally than twice the amount expended on ornament, however elegant and appropriate that may be.

Ancient Athens.

The Athenian edifices, erected in the time of Pericles, seemed, as Plutarch gracefully expresses it, endowed with the bloom of a perennial youth. Still the houses of private citizens remained simple and unadorned, still were the streets narrow and irregular, and even centuries afterwards a stranger entering Athens would not at first have recognised the claims of the mistress of Grecian art. But to the homeliness of her common thoroughfares and private mansions, the magnificence of her public edifices now made a dazzling contrast. The Acropolis that towered above the homes and thoroughfares of men—a spot too sacred for human habitation—became, to use a proverbial phrase, "a city of the gods." The citizen was everywhere to be reminded of the majesty of the State—his patriotism was to be increased by the pride in her beauty—his taste to be elevated by the spectacle of her splendour. Thus flocked to Athens all who throughout Greece were eminent in art. Sculptors and architects vied with each other in adorning the young empress of the seas; then rose the masterpieces of Phidias, of Callicrates, of Mnesicles, which, even either in their broken remains or in the feeble copies of imitators less inspired, still command so intense a wonder and furnish models so immortal. And if, so to speak, their bones and relics excite our awe and envy, as testifying of a lovelier and grander race, which the deluge of time has swept away, what, in that day, must have been their brilliant effect—unmutilated in their fair proportions—fresh in all their lineaments and hues? For their beauty was not limited to the symmetry of arch and column, nor their materials confined to the marbles of Pentelicus and Paros. Even the exterior of the temples glowed with the richest harmony of colours, and was decorated with the purest gold; an atmosphere peculiarly favourable both to the display and the preservation of art permitted to external pediments and friezes all the minuteness of ornament—all the brilliancy of colours—such as in the interior of Italian churches may yet be seen, vitiated in the last by a gaudy and barbarous taste. Nor did the Athenians spare any cost upon the works that were, like the tombs and tripods of their heroes, to be the monuments of a nation to distant ages, and to transmit the most irrefragable proof "that the power of ancient Greece was not an idle legend." The whole democracy were animated with the passion of Pericles, and when Phidias recommended marble as a cheaper material than ivory for the great statue of Minerva, it was for that reason that ivory was preferred by the unanimous voice of the assembly. Thus, whether it were extravagance or magnificence, the blame in one case, the admiration in another, rests not more with the minister than the populace. It was, indeed, the great characteristic of those works that they were entirely the creations of the people. Without the people Pericles could not have built a temple or engaged a sculptor. The miracles of that day resulted from the enthusiasm of a population yet young—full of the first ardour for the beautiful—dedicating to the State, as to a mistress, the trophies honourably won or the treasures injuriously extorted, and uniting the resources of a nation with the energy of an individual, because the toil, the cost, were borne by those who succeeded to the enjoyment and arrogated the glory.

Richard Wilson, R.A.

As a landscape painter the merits of Wilson are great; his conceptions are generally noble, and his execution vigorous and glowing; the dewy freshness, the natural lustre and harmonious arrangement of his scenes have seldom been exceeded. He rose at once from the tame insipidity of common scenery into natural grandeur and magnificence—his streams seem all abodes for nymphs, his hills are fit haunts for the muses, and his temples worthy of gods. His whole heart was in his art, and he talked and dreamed landscape. He looked on cattle as made only to form groups for his pictures, and on men as they composed harmoniously. One day looking on the fine scene from Richmond Terrace, and wishing to point out a spot of particular beauty to the friend who accompanied him—"There," said he, holding out his finger, "see near those houses—there where the figures are." He stood for some time by the waterfall of Terni in speechless admiration, and at length exclaimed, "Well done; water, by God!" In aerial effect he considered himself above any rival. When Wright, of Derby, offered to exchange works with him, he answered, "With all my heart. I'll give you air, and you will give me fire." "Wilson," says Fuseli, discoursing on art in 1801, "observed nature in all her appearances, and had a characteristic touch for all her forms. But though in effects of dewy freshness and silent evening lights few have equalled and fewer excelled him, his grandeur is oftener allied to terror, bustle and convulsion than to calmness and tranquillity. He is now numbered with the classics of the art, though more than a century has elapsed since death relieved him from the apathy of cognoscenti, the envy of rivals, and the neglect of a tasteless public; for Wilson, whose works will soon command prices as proud as those of Claude, Poussin or Elzheimer, resembled the last most in his fate, and lived and died nearer to indigence than ease." Wilson's landscapes are numerous and are scattered as they should be through public galleries and private rooms. They are in general productions of fancy rather than of existing reality—scenes pictured forth by the imagination rather than transcribed from nature, yet there is enough of nature in them to please the commonest clown, and enough of what is poetic to charm the most fastidious fancy. He sometimes, indeed, painted facsimiles of scenes, but his heart disliked such unpoetic drudgery, for his thoughts were ever dwelling among hills and streams renowned in story and song, and he loved to expatiate on ruined temples and walk over fields where great deeds had been achieved and where gods had appeared among men. He was fortunate in little during his life—his view from Kew Gardens, though exquisite in colour and in simplicity of arrangement, was returned by the king for whom it was painted, nor was the poetic loveliness of his compositions felt till such acknowledgment was useless to the artist. The names of a few of his principal compositions will show the historical and poetical influence under which he wrought—the "Death of Niobe," "Phæton," "Morning," "View of Rome," "Villa of Mecænas at Tivoli," "Celadon and Amelia," "View on the River Po," "Apollo and the Seasons," "Meleager and Atalanta," "Cicero at his Villa," "Lake of Narni," "View on the Coast of Baiæ," "The Tiber near Rome," "Temple of Bacchus," "Adrian's Villa," "Bridge of Rimini," "Rosamond's Pond," "Langallon Bridge," "Castle of Dinas Bran," "Temple of Venus at Baiæ," "Tomb of the Horatii and Curatii," "Broken Bridge of Narni" and "Nymphs Bathing." His pencil sometimes forsook subjects of classic or poetic fame and dwelt on scenes of natural loveliness; some of these are very captivating compositions—there is a light let in upon the hills and a verdant freshness among the trees such as few painters have surpassed. He frequently copied his own pictures, as want of bread or the taste of his customers dictated. This, which all others have done with impunity, has been made matter of reproach; there are men who will not be pleased and some who deserve not to be pleased, and Wilson experienced the enmity of both.

Wood Engraving in Venice.

The wood engravers of Venice about the middle of the sixteenth century appear to have excelled all other Italian wood engravers, and for the delicacy of their execution they rivalled those of Lyons, who at that period were chiefly distinguished for the neat and delicate manner of their engraving small subjects. In the pirated edition of the Lyons Dance of Death, published at Venice in 1545, by V. Vaugris, the cuts are more correctly copied and more delicately engraved than those in the edition first published at Cologne by the heirs of Arnold Birkman in 1555. In fact, the wood engravings in books printed at Lyons and Venice from about 1540 to 1580 are in general more delicately engraved than those executed in Germany and the Low Countries during the same period. Among all the Venetian printers of that age Gabriel Giolito is entitled to precedence, from the number and comparative excellence of the woodcuts contained in the numerous illustrated works which issued from his press. In several of the works printed by him every cut is surrounded by an ornamental border, and this border, not being engraved on the same block as the cut, but separately as a kind of frame, is frequently repeated; sixteen different borders, when the book is of octavo size, and there is a cut on every page, would suffice for the whole work, however extensive it might be. The practice of ornamenting cuts in this manner was very prevalent about the period under consideration, although at the present time few publishers seem inclined to revive it. Few would care to see it again become prevalent, for though to some subjects designed in a particular manner an ornamental border may be appropriate, yet the practice of thus framing a series of cuts is indicative of bad taste, and is likely to check the improvement of the art. Highly ornamented borders have in a certain degree the effect of reducing a series of cuts, however different their execution, to a standard of mediocrity, for they frequently conceal the beauty of a well-engraved subject, and serve as a screen to a bad one.

NOTES AND COMMENTS.

THE late Sir WALTER BESANT will be remembered for his novels. Some of them revealed a desire to resuscitate the past, but the author rendered more important services to archæology by the part he took in the administration of the Palestine Exploration Fund. For about seventeen years he was secretary, and subsequently he served as honorary secretary. The publications of the Fund owed much to his industry and literary skill; he helped to popularise the labours of WARREN, CONDER, KITCHENER and others. He had also resolved to produce a history and description of London, which in magnitude and detail would surpass modern efforts of the same kind. The volumes published by him suggest the pains he took to accumulate facts, and his survey when completed would have justified the anticipations of his friends and admirers. His Cambridge training made him a competent mathematician, and in his researches he was guided by the dry light of the science. It was not, however, by science, but by fiction that he was enabled to induce people to take an interest in the condition of the inhabitants of the East End of London. In suggesting reforms he was the true successor of CHARLES DICKENS, and if the eastern districts can now show better buildings, cleaner streets and opportunities for harmless pleasures, much of the credit should be awarded to the former Professor of Mathematics.

THE médaille d'honneur in the section of architecture at the Salon has been obtained by M. TOURNAIRE, who attracted seventy-six out of eighty-seven votes. It suggests the peculiar character of the award when we find that the coveted prize was given not for a building erected from M. TOURNAIRE's plans, but for drawings showing the present state of the temples at Delphi, as well as their former appearance according to his conclusions. It is perhaps an advantage to rise above everyday practice, but neither in painting nor sculpture can a similar elevation be sought. The première médailles which were gained by ordinary architectural practice were adjudged to belong to M. JACQUES HERMANT for his Caserne des Célestins, and to M. LOUVET for his Grand Palais des Beaux-Arts, which was one of the buildings in the International Exhibition. The Versailles Hôtel de Ville, which has been generally admired, gained only a deuxième médaille for M. HENRI LEGRAND. Second medals were also awarded to M. ERNEST THIBEAU and M. GRANDIN.

FOR the first time a Society of Architects has been established in the city of Belfast. It will represent the architects of the whole of the north of Ireland. Heretofore the position of architects in Belfast, which is a rising city of 380,000 inhabitants, has not been a desirable one. Architectural professional usage was of the go-as-you-please variety, and the very shrewd inhabitants knew how to take advantage of the absence of solidarity. The members of the new Society will profess loyalty to and observance of the rules and standard of the Royal Institute of British Architects. Sir THOMAS DREW, a practising architect, who although resident in Dublin for forty years, is still claimed as a Belfast man by virtue of his birth in that town sixty-two years ago, has by the goodwill of his brethren there been elected first president. Mr. W. J. GILLILAND is the vice-president and acting president. To bring order into the chaos is no easy undertaking, but the efforts must be advantageous to those who take part in them as well as to architects of a later time in Belfast.

IF the "Standards and Tables of Constructional Steelwork," compiled by ERNEST HOMAN and LEOPOLD MENSCH, had been issued at the usual price of technical pocket-books it would merit to be praised as among the best of its class, and no less worth a fair price. But coming from Messrs. HOMAN & RODGERS, in order to provide architects with a ready means of selecting the girders, stanchions, &c., for constructional work, it may erroneously be considered as one among a vast number of trade catalogues. Intrinsically, however, the value of the book is the same, no matter under what form it appears. We have no hesitation in saying there is no English treatise on girders and columns which is better adapted to serve as an aid to architects when preparing working drawings of buildings in which steel is to be an element. From beginning to end there is no puff direct or oblique of the girders, stanchions and roofs which are supplied by the firm. The scientific principles on which the strength of beams and columns depend are given at great length, as well as formulæ which will meet all the conditions of loading, whether distributed or eccentric. With these data the designer can judge for himself whether the "safe loads" calculated by Messrs. HOMAN & RODGERS are acceptable. It is well to know that the courageous experiments which are common in American practice are avoided, and the safe loads are rather in accordance with the approved practice in England. The compilers remark that stanchions are frequently selected from ordinary tables without any allowance being made for the loading on one side only. Accordingly, information is given for the calculation of stresses under all circumstances. Every designer of iron-work should endeavour to possess a copy of the "Standards and Tables," which he will find invaluable as a guide or as a check on calculations by different formulæ. The constructive details are as ample as need be desired, and the tables are printed in two colours in order to facilitate reference.

ILLUSTRATIONS.

HOUSE AT COBHAM: CORNER OF DINING-ROOM.

ST. JOHN'S GATE: FIREPLACE IN SIR H. PERROTT'S ROOM.

CHRIST CHURCH, BRYNYMAEN, N. WALES: VIEW LOOKING EAST.

THIS church, with the vicarage and a new residence for the donor, have been completed on an eligible site midway between Colwyn and Llanrwst. The church is built of Llysfaen limestone, with the dressings and interior walls of Helsby stone. The roofs and all the woodwork are carried out in Baltic oak; the former are covered with Dinorwic green slates. The windows of the chancel, the west window of nave and north aisle are filled with painted glass. The reredos is of oak, and the sculptured panels have for the subjects "The Annunciation," "The Nativity" and "The Adoration of the Shepherds." The church has been endowed and erected by Mrs. ELEANOR FROST, at a cost of about 8,000*l.*, as a memorial to her late husband, CHARLES FROST, J.P., of Minydon, the contractor for the whole of the buildings being Mr. EVAN JONES, of Groeslon, Carnarvon. The architects are Messrs. DOUGLAS & MINSHULL.

ST. BRIDE'S CHURCH, FROM BRIDE LANE.

ST. BRIDE'S CHURCH shared the fate of eighty-six other parish churches at the time of the Great Fire in 1666. The only relic that remains is a white marble font, which stands in the nave. The principal part of the present structure was completed by WREN in 1680 at a cost of nearly 12,000*l.* The steeple was not added until twenty-one years later, and it then rose to the height of 234 feet. But it was damaged by lightning in 1764, and Sir WILLIAM STAINES, the contractor, found it necessary to take down 85 feet of the spire, and when rebuilding it shortened the dimensions by 8 feet. It is the most lofty of all WREN's steeples (for St. Paul's dome does not count), and well exemplifies the architect's ambition to be independent of Gothic forms. Until 1824 the view from Fleet Street was obstructed by intervening houses, but in that year they were destroyed by fire, and a fund having been organised for the purchase of the sites, Mr. J. B. PAPWORTH designed St. Bride's Avenue, which allowed all who passed along Fleet Street to obtain a glimpse of the building. It is to be hoped that the authorities will bear this in mind when carrying out their improvement schemes, and if they cannot arrange for a more extended view they will, at least, insure that St. Bride's Avenue is not encroached upon.

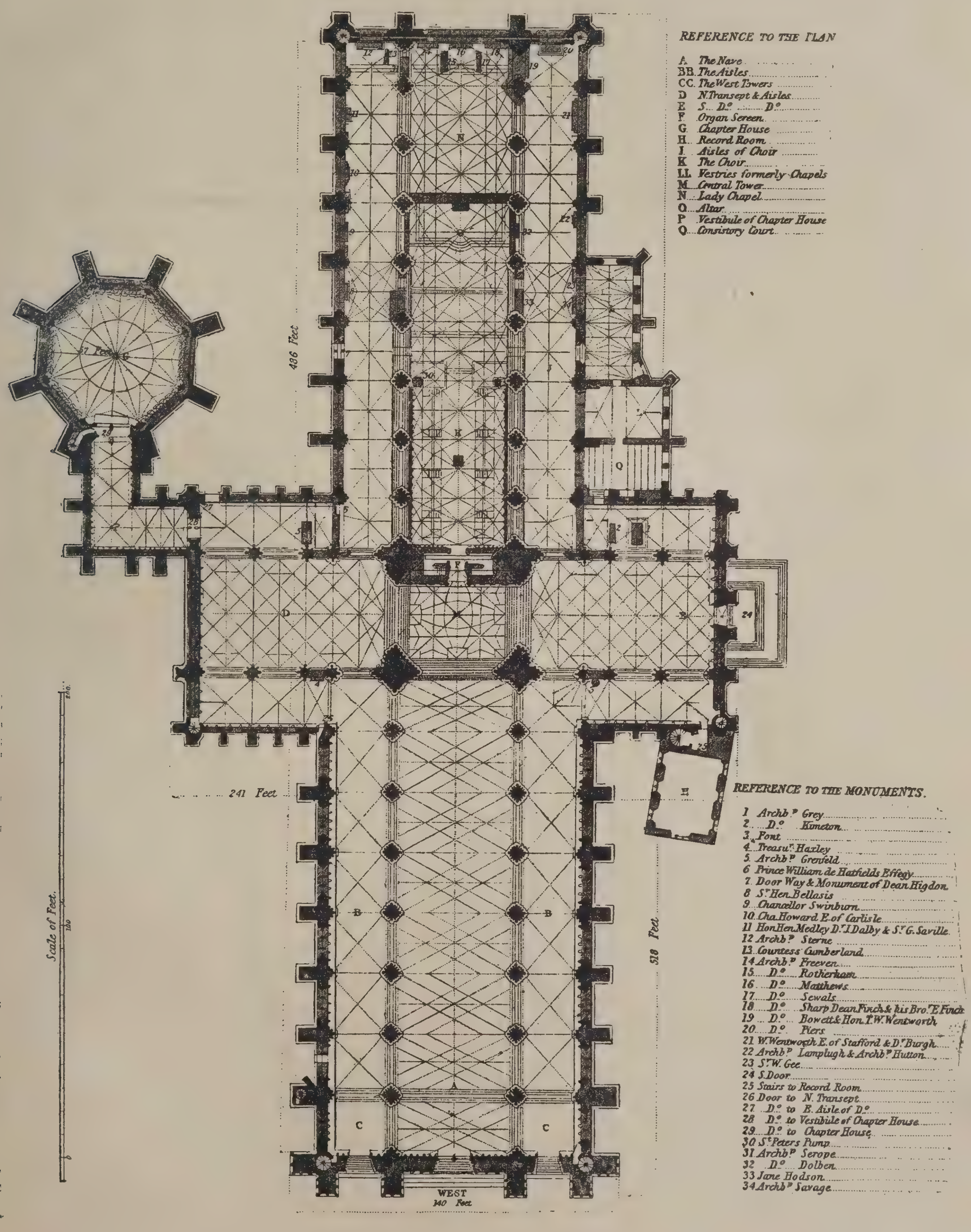
MESSRS. LEVER BROTHERS, LIMITED, PORT SUNLIGHT: SKETCH DESIGN FOR GROUP OF SEVEN COTTAGES, ALTERNATIVE.

WE regret very much that in our last week's issue the designs for the London and County Bank's new premises at Chichester were inadvertently attributed to Mr. Frederick Wheeler, whereas the architects are Messrs. Cheston & Perkin, of 5 Union Court, Old Broad Street, E.C.

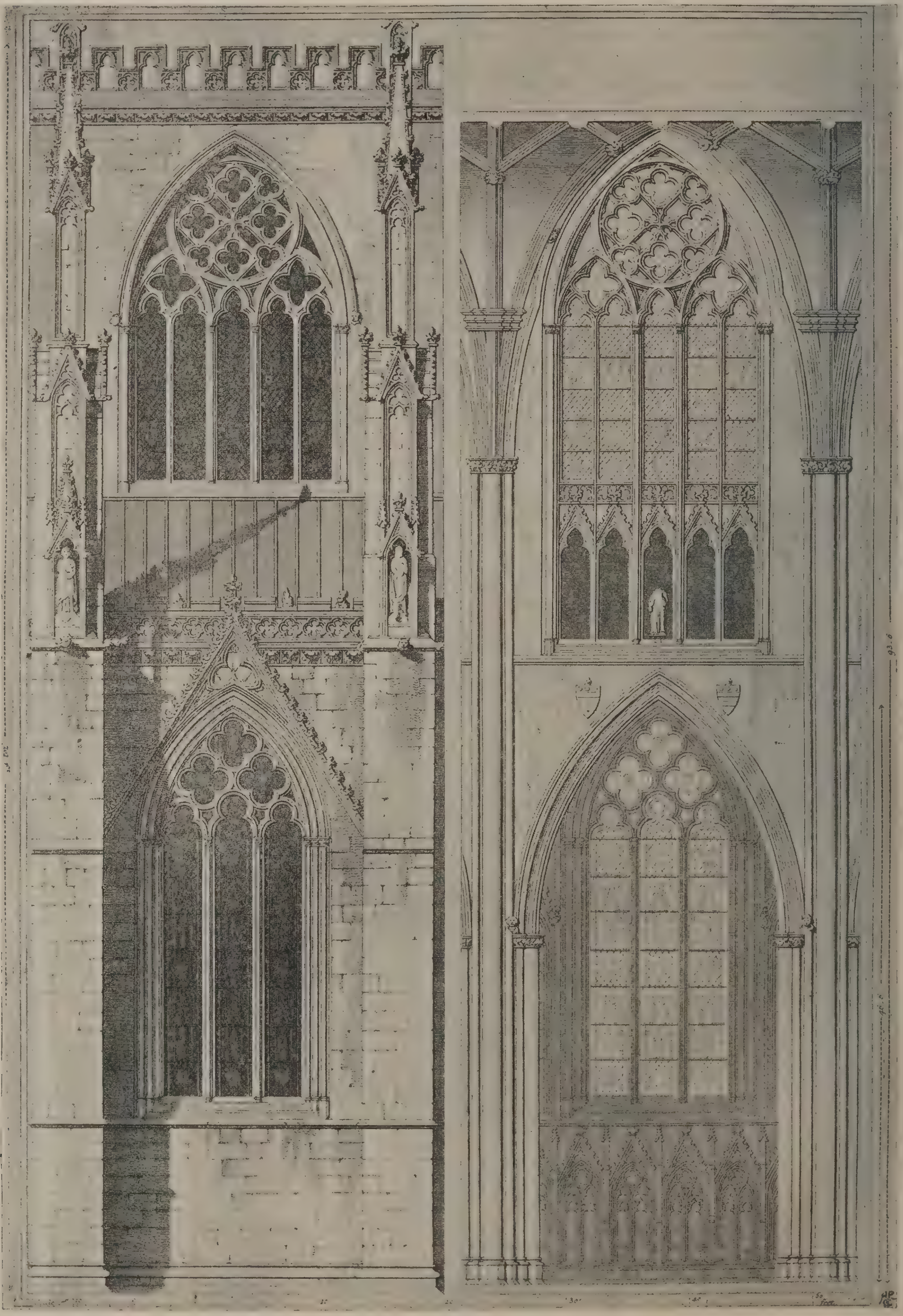
YORK CATHEDRAL.

THE ground-plan of York Cathedral is very simple. It is cruciform, the dimensions being about 515 feet by 241 feet. There are entrances at the west front, at the southern transept and at the northern transept. The southern transept is credited to WALTER GRAY. The choir was rebuilt by Archbishop THORESBY. According to DRAKE, he began in 1361 the new foundation of the choir of the cathedral church, towards the charge of which work he instantly laid down one hundred pounds, and promised to contribute two hundred pounds per annum till it was finished, which he faithfully performed as long as he lived. He also bestowed great cost in beautifying and painting the lady chapel with images and pictures of excellent workmanship. The archbishop died at Bishopsthorpe, November 6, 1373.

In the southern aisle the windows nearly correspond with those in the west front, and a similar treatment was adopted for the clerestory windows. The uppermost



window of the northern aisle is called by DRAKE the window armorial. The figures in emblazoned surcoats represent the kings of England, France, Aragon, the King of the Romans, Castile and Leon, Jerusalem and Navarre. There are also portraits, in their tabards, of the following noble personages :—BEAUCHAMP, CLARE, WARREN, ROSS, MOWBRAY, CLIFFORD and PERCY. The arms of Archbishops SCROPE and BOWETT in several places in these windows show that they were special benefactors to the church. Few cathedrals received more aid from individuals.



WINDOWS IN AISLES.

DURHAM ARCHÆOLOGICAL AND ARCHITECTURAL SOCIETY.

THE Archæological and Architectural Society of Durham and Northumberland inaugurated the season, says the *Durham County Advertiser*, by an excursion to Brancepeth, Whitworth and Croxdale.

Brancepeth.

The first stoppage was made at the entrance to the splendid grounds of Brancepeth Castle. There the objects of interest to be explored were the ancient church dedicated to St. Brandon and the stately castle of Viscount Boyne. Assembling round the ancient and quaint church stile at the entrance to the churchyard the party were addressed by Dr. Greenwell, who treated of the historical facts relating to the church and castle, especially of the derivation of the words Brandon and Brancepeth. The topic was interesting as treated, more especially in the characteristic way in which Dr. Greenwell disposed of the widely held opinion that the name was derived from the fact that the place was once the lair of a formidable beast, of whom it is said—

He feared not ye loute with hys staffe,
Ne yet for ye knigghte in his moyle ;
He cared ne more for ye monke with his boke,
Than ye fiendis in depe Croixdale.

Dr. Greenwell pointed out that there were many stories current as to the origin of the name of the place and of Brandon, and a well-known story related to a wild boar which was supposed to have been killed or came to an untimely end at the hands of the Lord of Brancepeth. That story, like many others of a similar character, had no foundation in fact whatsoever. It was his opinion that the name Brancepeth was in its earliest spelling Bran's Pike, and that Brandon was the Hill of Bran, with which the former place was associated, both originating from the same source. Who Bran was he was not able to say, and he offered his explanation as the most feasible. The earliest possessors of Brancepeth were a great and important family not only in Durham, but also in Yorkshire, the family of Bulmer. They did not go down a very long period, because in the twelfth century they found the Nevilles there. Bertram, the last of the Bulmers, dying, left his only daughter, who married Geoffrey Neville, grandson of Gilbert de Neville, a Norman, who came over with the Conqueror. Dr. Greenwell proceeded to trace the genealogy of the Nevilles, who, he said, were a house of the greatest importance. They held four peerages in four sons, and really almost ruled England to a great extent. They went on flourishing up to the reign of Elizabeth, when Charles, Earl of Westmoreland, who possessed enormous influence, went into rebellion, and being forced to fly the country, his estates were attainted, and he died in poverty in the Low Countries. That was the end of the Nevilles' power, but, said Dr. Greenwell, there was still a representative of the Nevilles left in the Marquis of Abergavenny, whose estates were in the south. He traced the passage of the property through the FitzMeldreds, of Raby, and Robert Cole, of Newcastle, until the estates ultimately passed to Sir Henry Vane Tempest in 1790, who had made a considerable fortune out of Wallsend coal. He pointed out the frequent changes of hands through which the estates had passed, and expressed the hope that long generations of the Russells would retain them.

Canon Fowler briefly introduced the subject of the church and described the restoration which had been done by the owners of Brancepeth. The party under his guidance traversed the churchyard, and attention was directed by the rev. gentleman to one quaint tombstone which recorded, evidently, the burying-place of a surgeon, for there is a representation of a basket and instruments such as he would carry round with him.

The ancient chantry was pointed out and the south door, with its Ionic pilasters and Gothic architecture, was inspected; a combination such as reminded him of the new fountain in Durham Market Place.

The interior of the church is particularly interesting and commands the attention not alone of the archæologist but of the casual sightseer. Canon Fowler pointed out its many characteristics and stated that in the refitting of the pews the original oak had been retained. Bishop Cosin had it fitted up in the Dives and Lazarus fashion, that was, the rich in the front and the poor behind. In the days of the pews with doors each had a padlock, and the pews were vested in the names of different persons. There had been also two pulpits erected by this cleric, one for the reading of the prayers, which was improper—the clergy stalls were the proper place for that—and one to preach the sermon from. The pulpit, a handsomely carved spiral structure, still remains, and in its design and surroundings is curiously reminiscent of the church at Sedgefield. In the chancel attention was drawn to the effigy of one supposed to be Robert de Neville, representing him with hands uplifted in the attitude of prayer, the legs crossed. The effigy is about 7 feet in length, and if it represents the size of Robert Neville he must have been a man of considerable proportions. On the southern side of the chancel are two massive figures carved in wood of a knight and his lady, the former in a coat of mail with hands uplifted. These monuments have been cut down, and the feet are partly missing. On the north wall an oak tablet was pointed out, which Canon Fowler said was probably put up by Cosin to receive his own name. As showing, however, how little they knew of their future, he had to fly to the Low Countries, and on his return was made Bishop of Durham, so that he died and was buried at Auckland Castle, and the tablet at Brancepeth now stands empty. Attention was also directed to a splendidly carved screen hung on the wall at the east end of the nave. This, Canon Fowler said, was a very fine bit of carving, and when examined through glasses was seen to be so exquisitely worked that it had been thought it was executed in ivory, which, however, was not the case. At the west end he showed the font, the base of which was a circular basin of Stanhope marble, with an oaken canopy beautifully carved and painted. The base is in the same style as one in St. Margaret's Church at Durham. Canon Fowler deplored the removal of the ancient lofty flight of stairs in favour of the present steps for no apparent reason whatever, for the former steps were of a capacity which accommodated even the crinoline of years ago.

Mr. Hodges reminded the visitors that they must not leave without inspecting the ancient chest which stood in the vestry, on the southern side of the chancel. After an inspection of this the party wended its way out of the church, over the ancient stile and across the beautiful stretch of castle lawn to the castle itself. By the kindness of Lord Boyne they were allowed to make a tour of inspection. The gateway is flanked by circular towers, and a lofty wall with projecting towers at the angles encloses a spacious courtyard. A quiet calm reigned as the party entered the castle precincts. There was no sound or sign of activity, and the moment was the more favourable therefore for an appreciation of the impressive grandeur of the place. Considerable interest was taken in the fine old barons' hall. Here are hung a collection of the ancient weapons of warfare There is a fine window of stained glass at the west end, painted in three compartments, and representing phases of the battle of Neville's Cross. One of these reminds us of the tradition that on the eve of the battle a vision appeared unto the prior of the convent at Durham, bidding him repair to the hills and there pray. The holy man, taking with him several of his monks, did so, and were so engaged during the heat of the battle, and at the moment might have been slaughtered, but that the Scots were restrained for fear of the consequences of harming the holy men. The central window panel depicts the battle waging in the forefront, and the monks on the hillside beyond engaged in invocation to the Almighty. The windows bear the name of Mr. Collins, London, and were erected in 1821. The only other features of special interest seen within the castle were the long gallery of accoutrements of war and slavery, fine pictures, including Hogarths and portraits of Lord and Lady Boyne and one of the heir, which was presented to the Hon. Gustavus Hamilton-Russell upon his attaining his majority in 1885, and which is to this time a wonderfully expressive likeness. The collection of armour is that with which an ancestor armed the Sunderland Volunteers in the early part of the nineteenth century during war with France. On the walls hang two flags, one with the words Sunderland Volunteers on it being in a tattered and worn condition. The loftiness and space of each room, and of the corridors, was admired, and the brief inspection of the seat of the Boyne family left the party very well pleased.

Whitworth Church.

Driving from thence by pleasant roads and through some charming woodland scenery, passing Whitworth Works, the members stopped at Whitworth, where the church was visited. This structure was said to have been rebuilt about 1803. Attention was first called to the effigy in the churchyard close to the south wall, which Mr. Hodges described. It appears to have been a fine piece of workmanship, and represents a knight with vizor closed, with a transitory gash therein. On his left arm is a shield, and in his right is held a drawn sword, which Mr. Hodges pointed out was unique, the sword not usually being so represented. The legs are crossed, and at the foot are apparently an angel and a couchant hound. Exposure to the weather has done much injury, and of the inscription a single letter is all that is visible. The fact that this very ancient effigy, ascribed to the period of about 1260, was out in the open was deplored by Dr. Greenwell and others, that gentleman expressing the hope that room for it might be found within the church. To this Mr. Sykes, the vicar, goodhumouredly retorted that they should be glad if a place could be pointed out where it might possibly be put. At the side of the effigy is another of a lady minus the head and now broken in half. On entering the church a consensus of opinion was formed that the want of space certainly created a difficulty in regard to the disposal of the knight effigy. The building contains many mural tablets, and one of these is interesting, having reference, Mr. Sykes informed the visitors, to one of the Shaftos, known as Six Bottle Mark, which was in compliment to his capacity for wine. Another informs us that the restoration of the building was done by the Rev. Charles Carr, who built the chancel and vestry, restored the nave, and removed the high-backed pews. Other physical alterations were made, and the walls panelled with oak. There is rich decoration of the chancel ceiling, and the floor is laid with mosaic. Attention was directed to the fine carving of the choir stalls. The choir retains the "squints," as the openings in the wall on either side were called, which enabled the congregation to witness the Communion. Mr. Sykes produced the old registers, from which he read the following curious extracts :—" 1645, July 27 —James, son of Ambrose Bell, of Tuddo, was the last baptized with the book of Common Prayer in this parish." "Charles II. proclaimed at London May 8, and at Durham May 12, 1660, on which day I, Stephen Hegg, began to use the book of Common Prayer." In the floor of the nave is to be seen a tombstone of the Shafto family. Of the windows those specially noteworthy are one dedicated to the memory of the Rev. Charles Carr, and the other a Shafto window.

Croxdale Hall.

On reaching Croxdale Hall, which is approached by a magnificent avenue from the foot of the bank at Sunderland Bridge, the party were taken in hand by Father Brown, under whose charge they visited the curious old church which stands in the hall grounds. Father Brown introduced his remarks on the subject of the old edifice by pointing out that it bore many marks of ancient origin. Croxdale, he said, was not mentioned before the eleventh century. As regarded its name, Hutchinson said that in days of ignorance and superstition the dale which runs round about here was thought to be the residence of evil spirits, an idea which gained credence perhaps from its being a place resorted to by robbers and vagabonds. To banish these a cross was erected on adjacent lands. Surtees suggested crux or cross and stail or stile, a place or seat. They would see the ancient cross in the churchyard. Doyle gave crooks in allusion to the numerous windings of Croxdale beck. He could not say that he was particularly attached to any one of them. A small church was built there about fifty years after the Conquest. That fact implied residents of some kind, but whether they formed a village or the inmates of a family mansion he was not able to discover. Father Brown described the architectural features of the building, and suggested that the curiously sculptured figure above the south door, as to the significance of which various conjectures had been made, represented the parable, "I am the Vine, ye are the branches," if it were anything at all. About 1200 a chancel was built on to the Norman nave, and other work was done one and a half centuries later. He pointed out as a curious fact that in the accounts of church goods in the diocese of Durham rendered May 20, 1553, in the seventh year of Edward VI, the chapel of Croxdale was not included, and he could not explain that. The dimensions of the building were:—Nave, 32½ feet by 17 feet 8 inches; chancel, 22 feet 9 inches by 14 feet; and the total length was 58 feet. The chapel was dedicated to St Bartholomew, apostle and martyr. The churchyard had never been employed as a cemetery. The site of the present church, above Sunderland Bridge, was given by the Salvin family, of Croxdale Hall, in exchange for this chapel of ease, and the chapel was used as a family burial-place. The Salvins had been connected with this estate from the beginning of the fifteenth century. Among the followers of William the Conqueror was a certain Jocelyn, who in reward for his services was given an estate in Nottinghamshire, not far from Welbeck Abbey. His son or grandson was the founder of Welbeck Abbey. The place where they lived was called Kuchney, and the family name was Kuchney. Ralph, a brother of the founder of Welbeck Abbey, went to live in a house in Sherwood Forest, known as the Wood House, and his son was talked of as Silvan Thomas, Thomas of the Wood, and after awhile the name Silvan stuck to the family. By a curious transposition of letters what was Silvan is now Salvin. A descendant of his fell in love with a certain lady named Agnes Race, by marrying whom in 1402 he became possessor of the beautiful estate on which they were that day assembled. From that day to this there had been an unbroken succession of the family from father to son, excepting in one case, where the grandson succeeded, the father of the grandson having been killed in the Parliamentary War at Northallerton, and an elder brother at the battle of Marston Moor in 1644. The family Christian name was Gerald, and there had been a Gerald every generation. The first Salvin was a Gerald, and the present owner of the estate was Gerald the sixteenth of the race. At the bottom of the hill, on the flat ground, an action took place the day before the battle of Neville's Cross. It appeared that about 500 Scottish cavalry under Lord Douglas were foraging about Kirk Merrington, when set upon unexpectedly by the English vanguard, which was advancing to face the Scottish from Auckland Park, where they had been encamped overnight. The Scots put spurs to their horses to get back to camp at Bearpark, but were overtaken and brought to bay on the flat ground, which was separated from the main land by two streams, the Wear on the one side and the Browney on the other, crossed by two bridges, and called the sunder-land on that account. These Scots were very badly cut up. A few escaped, and the remainder were driven up a ravine to Croxdale, and seemed to have been cut to pieces there. One Robert Ogle was said to have smitten so hard that his arm would not work any longer with cutting up Scotchmen, and he had to give up and leave the task to be finished up by others. The bridge by which the Wear was crossed at the bottom of the hill was widened at the north end owing to two or three terrible accidents which happened to the stage coach in turning the sharp curve by the public-house. In 1821 one of the coaches, turning sharply round, went over into the beck, and two of the passengers on the top were thrown down over the parapet of the bridge and had their skulls fractured on the rocks below. There was a similar accident some time afterwards, so that the justices, in whose hands such matters then were, were forced to widen the bridge at that end and interfere with the old order of things. The party then went to the Croxdale Hall gardens, where they were met by Mr. Gerald Salvin, who kindly accompanied them on a tour of investigation round the grounds of these fine gardens, the terrace of which is of considerable length and of great age. This was the completion of the day's excursion. Conveyances were taken again and the party drove without further stoppage to Durham.

EXPLORATION AT SILCHESTER.

On June 3 the exhibition of antiquities found at Silchester during last year was opened at the Society of Antiquaries, Burlington House. The collection will remain on view till the 15th inst. The year's operations were begun in May and continued, save for a small interval during the harvest, until December. The excavations were confined to four of the insulæ into which the area has been divided, numbered 23 to 26. Insula 23 formed the northernmost of the unusually large squares in the central portion of the town. Here the late Rev. J. G Joyce unearthed a house of considerable size so long ago as 1865. Later research has revealed an additional series of chambers to the north-east, which evidently formed part of the same dwelling. Another house of large size with several mosaic pavements was also uncovered on the east side of the insula, and in the mouth of its courtyard was a small square building which was probably devoted to sacred purposes. This had been raised round a small and earlier structure of the same character. The pits and wells in the immediate locality were unusually productive in pottery. In addition to over 100 whole vessels of all kinds and sizes the yield included a hoard of smiths' and other iron tools numerically larger than the famous find of 1890.

In insula 24 were found two houses, one of which was not only large but of exceptional interest owing to the peculiarity of its plan and its numerous mosaic floors. Other buildings encountered by the excavators near the north gate were apparently connected with dye works, while in insula 26 the late Mr. Joyce's work was again supplemented by the discovery of the complete plan of a house partially revealed by his industry. The same area contained three other structures, of which one was represented by a solid circular platform with a cement floor 27 feet in diameter. This seems to have been enclosed by woodwork or half-timbering.

Most remarkable among the metal pieces is, perhaps, a singularly large and well-preserved padlock and a very beautiful example of the farrier's tool known in France as a "boutoir," and corresponding to the old farrier's "buttress." Its shape is even more interesting than that of the similar implement found at Pompeii, though it lacks the ornamental relief of that well-known example. Portions of cooking utensils and several bucket handles, many carpenters' tools and one or two ingeniously fashioned candlesticks will likewise well repay examination, as well as many very perfectly shaped vessels in variously coloured ware. The collection also includes numerous specimens of coloured wall plaster, and an important section of a pavement combining the *opus sectile* with the *opus tesellatum*, an imitation in humbler materials of the favourite marble floorings of ancient Italy. The significance of these remarkable finds was explained by Mr. W. H. St. John Hope, hon. secretary of the Silchester Excavation Fund, and Mr. George E. Fox, F.S.A., the hon curator, under whose charge the whole collection will eventually be placed for arrangement in the architectural room in the Reading Museum, which already contains more valuable treasures of the kind than are to be seen in any other part of the country.

The statement of accounts furnished by Mr. F. G. Hilton Price, hon. treasurer of the fund, reveals an expenditure of over 500*l*. during the last twelve months. The balance in hand is considerably less than 20*l*., and the committee are therefore anxious to receive subscriptions to meet the expenses of the ensuing season's operations. These, it is estimated, will require at least 500*l*., the intention being to proceed during the current year with the excavation of a strip of ground east of insulæ 21 and 22, and to begin the systematic exploration of the grass field in the centre of the town. Donations may be sent either to Mr. Hilton Price (17 Collingham Gardens, South Kensington) or to Mr. St. John Hope at Burlington House. The object is one which will especially appeal to those interested in the early history of this country, towards which the discoveries made at Silchester, the only purely civil Romano-British settlement yet brought to light, have already furnished valuable contributions.

Mr. A. H. Lyell, has compiled an interesting list of the flora of Silchester, including at least 100 plants of which seeds have been found in the pits which occur in every part of this ancient site.

THE ROYAL INFIRMARY COMPETITION.

THE following letter by Dr. R. Rowand Anderson has appeared on the subject of the Glasgow Royal Infirmary reconstruction:—

In consequence of absence from home, I have only now seen the statement formulated and published by the executive committee detailing and justifying the steps they have taken and the course pursued by them in dealing with the plans. As my name has been introduced into this statement, I beg you will allow me a few words of explanation. The committee, in referring to me, say that my function, as I frankly acknowledge, was to "guide and not to select." Sir David Richmond stated publicly that I was engaged as "technical adviser, not assessor." My appointment, as stated in the minutes, is in the following terms:—"The sub-committee thereupon agreed to appoint and hereby appoint Dr. Anderson as assessor to the committee." In the printed terms and conditions of competition issued to architects it is stated that the committee "will appoint a neutral architect of standing as assessor, and will give the fullest consideration to his advice." The committee then proceed to say that one of the two plans which most closely conformed to the sketch issued for the guidance of competitors was not included by me in the short leet, and that further interviews with me satisfied them that its exclusion arose from no failure on the part of the selected plans in regard to vital or essential particulars, but chiefly from a difference of opinion in regard to the style of architecture and the general elevation, matters on which the executive committee ventured to think they were quite entitled to follow their own opinion, and the "minority cordially acquiesced in the selection of the majority." From the above statement it appears that the executive committee considered themselves quite competent to judge not only of the technicalities of the building as an infirmary, but also of its architecture. That being so, one naturally asks why they called in an assessor. In proof of their competency to judge and decide on all matters connected with the building, they state that the "minority cordially acquiesced in the selection of the majority," which majority consisted of one. This majority would have been converted into a larger minority but for most unfair canvassing of the committee before I gave my final explanation. Had I known of this in time I would have thrown up my commission. It is entirely wrong to lead the public to believe that it was solely on account of the architectural treatment of the design they selected that I did not include it in the short leet. I gave the most minute and searching examination to every plan submitted in the competition, and in arriving at a decision I attached supreme importance to those qualities which constituted according to my view a scientific building and one adapted to its purpose. And I maintain that the one I placed first embodies a greater number of merits than any of the others. The committee believe that they have shown discretion in approving the architectural style of the adopted plan, and they say, "it is distinctively Scottish—the national art of the fifteenth and sixteenth centuries, of which we have examples in Heriot's Hospital, Holyrood, Linlithgow and Falkland Palaces, and in our own old college lately in the High Street. It is therefore not only appropriate to the historical associations of the site upon which stood the castellated bishop's palace, but permitting, as it does, a limited use of Gothic forms, as in Heriot's Hospital, Edinburgh, it is more in harmony with the cathedral itself than any Classic or modern style." Ranker architectural nonsense than this was never penned, and whoever composed it is absolutely ignorant of the meaning of the terms he uses. I fail to see what associations there can or should be between a building dedicated solely to the relief of suffering humanity and one erected in a semi-barbarous age, and built with appliances for dealing death and suffering outside and cruelties and tortures inside. If the relief of the sick and the hurt is to be the one paramount object of this building, that can only be accomplished by utilising to the utmost the beneficent and curative forces of nature and the teachings of science, and not by erecting and wasting money on the ghastly absurdity of a baronial infirmary.

A BRITISH PREHISTORIC MONUMENT.

IN a lecture at Owens College, Professor Boyd Dawkins described "Recent Archæological Discoveries in Lancashire." The most important that had been made during the year was that of a large circular enclosure at Bleasdale, near Garstang, by Mr. Jackson. On a moor commanding a grand view of the hills a large circle composed of stumps of oak trees was discovered. It was 150 feet in diameter, and consisted of round oaken timbers, principals and secondaries. The first were 30 inches in diameter, and at intervals of about 9 feet, while between them were the secondaries from 12 to 14 inches in diameter. The entrance was to the south; the timbers had rotted down to the ground, and in the case of the principals were embedded to about 5 feet from the surface. The ends of these had been carefully adzed off to a true surface at right angles to the main axis, and the marks of the adze upon them showed that it had a small cutting edge of about 2½ to 3 inches diameter, and such as was in use in this country in the Bronze Age. Inside this circle was a circle enclosed by a ditch with a rampart outside, and the ditch was filled with timbers about 12 feet in diameter, forming a kind of platform at about 3 feet from the surface. Inside this was another circle of large timbers, and inside this again was the burial-place. Three urns were met with in the burial-place, containing a large quantity of human ashes. The dead had been cremated, and the pottery in which the ashes were contained was of the ordinary type of the Bronze Age. This remarkable sepulchral monument in timber was perfectly unique, and represented in wood what in other places in Britain was represented in stone. And there was no reason why timber should have been used in this place instead of stone, for in the neighbouring hills stone was quite as abundant as that which formed the cairns of the Bronze Age in Derbyshire and elsewhere.

THE RUSKIN MEMORIAL CROSS.

THE headstone, designed by Mr. W. G. Collingwood, which is to mark the burial-place of the late John Ruskin, has been placed in Coniston churchyard. The monument is a tall cross of the type lately revived from ancient pre-Norman models, this Early English type having been adopted in the belief that Mr. Ruskin himself would have wished for some headstone of a quiet and unpretentious, and yet of an artistic and decorative kind. The cross is of the hard green stone of Coniston, supplied from the quarries of Tiberthwaite, and is not liable to chip or lose its pleasant, grey-green colour It is slender and tall, standing some 9 feet from the ground. On the side facing the grave, and looking east, is a figure with a lyre, symbolical of Mr. Ruskin's earliest works, poems, and the "Poetry of Architecture." Above this, in a panel of interlaced work, is inscribed his name and the dates 1819-1900, the only lettering thought necessary, as the story of his life is depicted in pictures. Over the tablet is the figure of an artist sketching, with the pines and the range of Mont Blanc indicated, and the rising sun, which was the device on his first great work, "Modern Painters." Above is the lion of St. Mark, representing "Stones of Venice" and the candlestick of the tabernacle for his "Seven Lamps." The south side is filled with clusters of his favourite wild rose, in bud, blossom and fruit, and on the boughs are three of the creatures about which he wrote with that affection—known only too well to his students—the squirrel, the robin and the kingfisher, all symbolical of his interest in nature. The west side, looking towards the mountains he so loved, represents Mr. Ruskin's ethical and social teaching. At the bottom is the parable of the workmen in the vineyard receiving each his penny from the Master, "Unto this Last." Then comes a design of "Sesame and Lilies," and in the middle "Fors Clavigera," the Angel of Fate holding the club, key and nail, which will readily be recognised. Over this is the "Crown of Wild Olive," and at the top "St. George and the Dragon." The north side is of a simple interlaced pattern. The cross-head on one side bears the Globe, symbolising in those old sculptures the Sun of Righteousness, and the other side has a disc with the Fylfot, or revolving Cross, accepted all the world over as the emblem of eternal life.

LIVERPOOL SCHOOL OF ARCHITECTURE AND ALLIED ARTS.

THE following letter from Mr. W. Raleigh has appeared in the *Liverpool Courier*:—With a cathedral and a university in prospect the future of Liverpool promises well. These schemes will take long to complete; in the meantime a more pressing necessity claims the attention of those citizens who desire to see their city great and famous. The School of Architecture and Allied Arts, which was founded in connection with University College some six or seven years ago, is an experiment that has perhaps attracted less attention than it deserves. The nucleus of the school was found in the chair of fine art in University College, a chair which had been devoted during the tenure of Professors Conway and Stevenson solely to verbal exposition, criticism, history and archæology. By degrees, chiefly under the inspiration of Professor R. A. M. Stevenson, the opinion gained ground that a chair of the fine arts could not do its right work in a great city while it was totally dissevered from the practice of the arts.

By the generosity of the city it was made possible to give effect to these views, and there was established a school of the most comprehensive and ambitious character, in which all the most important of the arts and crafts that are in any of their applications subservient to architecture were grouped together in the closest relationship to each other, in touch with the methods and aims of the university, and recognising by their allegiance to architecture the very principle of their existence, that the daily necessities of life—shelter, food, clothing and rest—may be made an occasion for beauty, must so be made, indeed, if they would escape from ugliness and squalor. The school has thrived; it is working a revolution in the education of architects, and in other arts has attracted to itself artists and students of distinction and promise.

So much for history. But the school, by the very rapidity of its growth, lacks money. And the temptation to sin often comes to an institution, as to an individual, under the stress of poverty. It appears that money is to be had by those who will accept the terms on which it is offered. By accepting some measure of control from the central national organisation that is still popularly known as the Science and Art Department, South Kensington, the Liverpool School can eke out its finances and continue its activities. The question (to be determined, I am told, to-day) is whether this school of architecture and allied arts, the child of this college and this city, which has hitherto admitted no external control, but has grown up freely under local conditions, shall throw itself into South Kensington organisation, and submit to the central London authority.

I trust that the board will refuse this solution of their difficulty. My excuse for offering an opinion will, I hope, be allowed. I worked for the better part of two years on the committee that initiated the proposal to found the school; I know the ideas that were the motive power of the scheme; I know the work of the school, and believe that it is a credit and strength to the city and the college. On the other hand, I know that my opinion carries little weight. But an institution that is worth years of effort to create is worth the attempt, however vain, to preserve, and my apology for troubling you, sir, must be that in my opinion nothing less than this is involved.

Of all kinds of education, art education has least to gain and most to lose by centralisation. For art, if it has life in it, is a growth, and a growth of infinitely diverse forms, eternally experimental, original at the peril of its life, adapting itself to the shifting conditions that environ it. In other branches of education the citizens of Liverpool have already determined to consult their own needs and to follow their own bent. Fifteen years ago large numbers of students were prepared at University College, Liverpool, for the examinations of the University of London. To-day there are few, and when once the University of Liverpool is established there will be none. Yet at the same time it is proposed to take this retrograde step, whereby the art schools shall be submitted to a body with many of the characteristics of the old London University, and with all its vices. It is far from my purpose or wish to abuse or decry the men in whose hands, as teachers or directors, the South Kensington system rests. Doubtless they do their best under the system that they inherit. If it were really necessary that teachers of no originality should continue to produce pupils of no distinction at the cost of enormous mechanical labour, the system, with its monster national competitions and its sedulous cultivation of niggling, is well adapted to achieve that end.

A "national competition" to anyone who has thought about art and cares for what is vital in it, is in itself an absurdity. Success in such a competition must always be achieved in well-worn grooves. The judges are little likely to recognise rare, shy or curious merit; the business is too risky; they will generally return verdicts that are readily understood, and give prizes to trained skill in the service of an average purpose. The works to be judged are disparate and incommensurable in style and in aim. The real encouragement of art for the possibilities and the promise that it shows belongs to local authorities and teachers, above all to a school which is free to develop its own style, and to work out its own destiny. To support such a school, where it already exists, is surely a privilege and a duty in a city like this, which dreams of high destinies. With an art and a style of her own the city might be confident of her future.

I have known almost all the teachers in the School of Allied Arts. Without a dissentient voice, they are against the proposed surrender. There is hardly one of them, I may safely say, that would originally have accepted his post under the old South Kensington conditions. Among the best pupils that the school during its short life has produced, many have been attracted to it chiefly by its independence of the mechanical tyranny that is imposed on the Government schools.

But all this, I shall be told, is changed. The Department of Science and Art is now reconstituted, and renamed the Board of Education. It is controlled by good artists and wise men. If so, then King Log has become King Stork. Men who undertake to control the artistic activities of a whole nation are dangerous and harmful exactly in proportion to their abilities. The only hope for a system of "grants by results" and "national competitions" is that it shall fall into incompetent hands. A strong man, or a body of strong men, will make it seem plausible, and will impose on the intelligence of the man in the street, or in the council. What they cannot do is to awaken the impulses that create original art in a community, or to give the sympathies that encourage it.

I have heard it said also that the central authorities are now so enlightened that they give money to a school merely for doing as seems right in its own eyes, for being its own sweet self. It must be a very young or a very credulous politician who believes this. But men, it is said, are April when they woo, December when they wed; and perhaps the same is true of marriages between public bodies, especially when they are marriages of convenience, contracted for money.

If money is the great stumbling-block, there are at least two possibilities of escape. A city that has inaugurated within a year schemes for a cathedral and a university will not hesitate to support this smaller adventure when once it is awakened to the gravity of the issues at stake. Or, failing this, here is a rare chance for a private donor. A comparatively small sum of money would save the school. It is a part of the ill-fortune of generous and wealthy men that they are often unable to tell how their money will be used, or whether it will be of real service to the end they have in view. But here the thing exists, and asks only to be saved and developed. If it falls into the great national drag-net there will go with it all the high hopes of a revival of art in Liverpool which originally actuated its founders, and which at this moment actuate the little company of artists that are its staff.

ARCHITECTURAL ASSOCIATION OF IRELAND.

AT the concluding meeting for the session 1900-01 the reports of the various classes were read and the results of the several competitions announced.

The A. A. Travelling Studentship of Ten Guineas was won by Mr. J. A. Rockett, whose measured drawings of St. Patrick's Cathedral were adjudged by Mr. A. E. Murray, A.R.H.A., as the best of those submitted in competition.

The Royal Institute of the Architects of Ireland offered a prize of 10*l*. 10*s*. for a design to be competed for by members of the Association. The subject set for design was "A Technical School," and seven members submitted drawings under motto, which were kindly assessed by Mr. W. H. Lynn, R.H.A. (Belfast). Mr. W. Kaye Parry, read the assessor's award, which placed first the design submitted under motto "Cui Bono," and upon the President opening the envelope bearing that motto it was announced that the successful competitor was Mr. C. P. Powell.

Mr. W. F. Beckett's prize of 2*l*. 2*s*. for the best sketch of the Campanile in Trinity College was won by Mr. L. O'Callaghan.

The result of the ballot for the officers for the ensuing session (1901-02) was announced as follows:—

President, C. J. M'Carthy; vice-presidents, T. E. Hudman, E. P. Sheridan; committee, H. Allberry, F. Batchelor, R. M. Butler, T. Coleman, F. G. Hicks, J. Holloway, C. H. Mitchell, L. O'Callaghan, R. C. Orpen; hon. treasurer, J. H. Webb; hon. librarian, J. Geoghegan; hon. secretaries, E. Bradbury and G. F. Beckett; hon. auditors, Mr. J. Buckley and J. P. M'Grath.

The retiring president, Mr. Frederick Batchelor, delivered a short valedictory address, in which he reviewed the work of the Association during the past session, and expressed hopes for the future.

Mr. Kaye Parry proposed a vote of thanks to the retiring

President for his valuable services during his term of office, which was seconded by Mr. C. J. M'Carthy, and carried with applause.

A vote of thanks to the retiring hon. secretary, Mr. F. G. Hicks, was proposed and seconded by Mr. H. Allberry and Mr. R. M. Butler respectively, who, as past secretaries, were able to appreciate the arduous nature of his duties. The vote was carried with acclamation, as was also one to Mr. J. H. Webb, hon. treasurer, proposed by Mr. T. E. Hudman and seconded by Mr. E. Bradbury.

Mr. J. Rawson Carroll having congratulated the Association upon the work done during the past session, the meeting terminated.

THE NEW GOVERNMENT OFFICES.

IN a letter to the *Times* Mr. Aitchison, R.A., writes:—It is most unfortunate that the two distinguished architects who were to build the new Government offices are both dead when the foundations alone have been completed, and I dare say that no model of either of these great public monuments exists. I believe that all the principal buildings of the world, at least since Justinian's time, were built from models, and by the precaution taken by the Pope to have a model made, we have now Michel Anglo's dome at St. Peter's.

For many of the buildings that have won the admiration of mankind two architects were employed to insure, I suppose, that the approved design might not be lost by the death of its designer. The Parthenon had Ictinus and Kallikrates for its architects. Anthemius, of Tralles, and Isidorus, of Miletus, were the architects of Sta Sophia at Constantinople.

At St. Peter's Bramante was seconded by B. Peruzzi, and afterwards by Antonio da San Gallo the younger. Raphael had Giuliano da San Gallo and Fra Giocondo as aids, and after their deaths A. da San Gallo the younger was first architect; he had Peruzzi as his second. There was no second architect to Michel Angelo, although he had Vignola and Pirro Ligorio as aids.

We were lucky in the strength and long life of Wren, who finished our great Protestant cathedral, and in Sir Charles Barry, who finished the Houses of Parliament; but Elmes, the architect to that triumph of Classic architecture, St. George's Hall at Liverpool, died before it was finished, though he was fortunate in having so great a master as Professor Cockerell to finish it.

But should the proper completion of great public monuments be left to chance? The French Government, I am given to understand, always appoint a first and second architect to all their public buildings, the second being fit to carry out the first architect's design in case of his death.

I am afraid the English people are not aware that architecture is the record of the artistic skill of each epoch, and tells the state of cultivation of the nation, from which all else may be deduced, or else they would not be so regardless of the possible fate that a monument may meet with in case of the death of the original designer—that is, they do not care if a bad history of their time is handed down to posterity.

BRISTOL AND GLOUCESTERSHIRE ARCHÆOLOGICAL SOCIETY.

THE Bristol and Gloucestershire Archæological Society held their annual spring meeting on the 6th inst, visiting Winterbourne, Almondsbury, Over Court and Westbury-on-Trym. The weather was fine, and there was a good attendance of members.

The first place visited was Winterbourne, which at the great survey was part of the royal manor of Bitton. The party were met at the church by the rector (the Rev. A. T. P. Goodrich, M.A.). The party then proceeded to inspect the church, and great interest was taken in the chantry chapel, on the north side of the chancel, called the manor chapel (rebuilt in 1880), which contains the tombs and effigies of Thomas Lord Bradston and his wife.

The Rev. Canon Bazeley made some remarks upon the history of Lord Bradston, who died in 1360, and was a retainer in the House of Berkeley.

The party then drove to Almondsbury Church. They were welcomed by the vicar (the Rev. G. R. Wood), who said it was rather more than twenty years since a similar visit was made to that church.

The Rev. Canon Bazeley explained that the church was a little puzzling because it was so much restored. The church appeared to have been built in the eleventh century, and then in the thirteenth century there was a new chancel. The chancel was Early English throughout, with lancet windows, while the groined roof, with the conventional foliage, proclaimed it to be thirteenth century, for a century later foliage was represented naturally. The porch was one of the most interesting features of the church, with a fine semicircular headed doorway, with round shafts and cushion capitals. Above the groined roof was a parvise or priest's chamber, on the chimney of which was a figure of Alcmond, from whence the parish was said to derive its name. Attention was called to two tombs with a human head and cross upon them.

A drive brought the members to Over Court, the pleasantly situated house of Mr. R. C. Cann Lippincott, standing in a beautiful park, which contains a herd of fallow deer. Upon the lawn a meeting was held, and papers read on "Did St. Augustine meet the British Bishops at Aust?" the Rev. C. S. Taylor taking up the case for Aust.

Afternoon tea was offered to the members by Mr. Lippincott in the fine dining-room, which contains valuable specimens of old Flemish tapestry of the seventeenth century. The fine tapestries of the late seventeenth century in the bedrooms were also inspected and admired. A drive through pleasant country brought the members to Westbury-on-Trym Church, which is considered by some not only one of the most beautiful in the shire as regards fabric, but without doubt the most interesting of all the Gloucestershire parish churches, if the history of its foundation and the subsequent changes of ecclesiastical status through which it has passed are considered. The vicar (the Rev. H. J. Wilkins) received the party and thanked the members for coming.

The Rev. C. S. Taylor said there was no church in the county whose history was so varied or long—not even the cathedral at Gloucester had a history so varied. Concerning the date, 715, which he had suggested, it was more or less a matter of conjecture. The earliest date they had was 794, when they were told the land was granted to Ethelmund. Enalf, however, had founded a monastery at Bredon in 715, and there was every reason to believe that he founded the same form of religious house there which existed in 794, and was spoken of as still existing, and called "West Minster."

The Rev. Canon Bazeley, said Mr. Ormerod, who took a great interest in the matter, showed him a plan drawn by the late Archdeacon Norris, in which he believed that the present north aisle was the nave of a former church. He thought the pillars in the nave were later than 1097, for both them and the aisles had characteristics of Transitional work, passing from Norman into Early English seventy or eighty years later. The church was full of interest, historically and architecturally.

EDINBURGH ARCHITECTURAL ASSOCIATION.

A SPECIAL meeting of this Association, which was well attended, was held in the Royal Institution on the 5th inst., Mr. Henry F. Kerr, the president, in the chair. The Chairman referred in fitting terms to the death of Mr. John M. Brydon, London, and it was resolved that an expression of the Association's regret and sympathy be sent to the relatives of the deceased. Votes of thanks were awarded to all who had contributed directly to the success of the recent visitations, Mr. J. G. Goodchild, of the Geological Survey, being specially mentioned in connection with the "geological ramble" in the Queen's Park. Professor Baldwin Brown addressed the meeting on Durham, Hexham and Chesters, with the view of conveying a general idea of the character and aspect of the principal buildings, &c., to be visited on the occasion of the Association's annual excursion on the 14th and 15th inst. His remarks were illustrated by lantern transparencies.

IVORY CARVING IN THE PUNJAB.

A MONOGRAPH on the art of ivory carving in the Punjab by Mr. Ellis, an assistant commissioner, has been lately published in India. The art appears to be a comparatively modern one in the province. In Delhi, which is the chief seat of the industry, it is almost exclusively a hereditary occupation. The whole trade of Delhi is practically in the hands of one family, the head of which pays the carvers. Some of the latter are paid very high wages, for at the last moment a slip through carelessness or want of skill might spoil the work of months. Prices are sometimes very high, as much as 500*l.* having been given recently for a piece of carved ivory. At Amritsar, another centre of the industry, the work is less elaborate in its character, and consists chiefly of bangles, toys, combs, paper-cutters, card-cases and the like. Hoshiarpur is the chief centre of inlaying and the manufacture of decorative furniture. Some of the inlayers prepare a stock of their goods with which they travel all over India, selling them to private purchasers. In Patiala, too, under the patronage of the late Maharajah, ivory carving has been carried on, chiefly that of bangles. At Ludhiana the turning of billiard balls has become a regular, though small, industry. But, according to Mr. Ellis, the art of ivory carving, as a whole, does not flourish in the Punjab, although the work of Fakir Chand at Delhi and Ghulam Hussain at Hoshiarpur is famous all over the world. The raw material comes from Africa, Burma and India ; but Indian ivory is of inferior quality on account, it is said, of the food of the animals and the inferiority of breed, climate and surroundings. The industry, with few exceptions, is confined to the large towns, the purchasers of the carvings being mostly Europeans. The designs, Mr. Ellis says, are Indian, the imitation of European models not having yet invaded the art. Some of them have an unnatural stiffness and want of flexibility, but many of the tracery designs of the most intricate character show real artistic feeling and are exquisitely executed.

PENTELICON MARBLE QUARRIES.

THE Pentelicon marble quarries are now worked by a British Company—Marmor, Limited—which has a nominal capital of 14,525,000 dr. (350,000*l.*). Mr. Consul Walsh says that perhaps during the past year the progress of this undertaking has not realised all expectations.

There has been a great outlay in the development of the estate, 6,225,000 dr. (150,000*l.*) having been spent for this purpose, and the installation of railways, of inclined planes, sawing and polishing machines, railway waggons, locomotives, cranes, &c., and the preparation of these facilities for working the quarries has taken longer than was anticipated ; by the end of June 1901, however, it is hoped that everything will be in working order.

There is a very considerable demand for this marble in the Greek market, and the company have been fortunate in obtaining the contract for the supply of 211,902 cubic feet of marble to be delivered in three years for the Stadion in Athens, funds having been left for this purpose by the late M. Averof of Alexandria. There are indications also that this marble will find a ready market abroad. Inquiries are made from all parts of the world, and several trial shipments have been made to America, where there is a good demand for marble of this kind for buildings.

From one of the quarries a huge block of marble has been cut for the statue of Moltke at Berlin, weighing 75 tons, but on account of the freight and other expenses in connection with moving it the block will be reduced more or less to the actual shape of the statue till its weight reaches 35 tons. The principal shipment of this marble up to the present is to Germany, in German bottoms, and German ships have made special arrangements to strengthen their winches for this purpose. Efforts have been made during the past year to induce British lines to carry this cargo, but so far without effect. It may be that they are waiting for the traffic to become larger and more regular, but, if so, foreign lines will have been in the field for some time.

The green Cippolino marble at the south of Eubœa is being brought out now in larger quantities, as also is that from Tinos, and each of these marbles, more especially the former, is establishing a sound demand.

GENERAL.

The King has resigned his trusteeship of the British Museum. His Majesty has held the office since 1881, and as a member of the standing committee of the trustees, has taken an active personal share in the administration of the Museum.

Mr. Edward Moran, the American painter, died on Sunday.

The Bishop of Liverpool on Monday was recommended by the clergy to adopt the site of St. James's Mount for the erection of a cathedral. The Bishop was requested to convene a public meeting on the 17th inst., to which the resolutions of the Bishop's committee may be submitted.

Mr. W. Q. Orchardson, R.A., has been elected a Foreign Associate of the French Academy of Fine Arts as successor to M. Broszik. Since 1895 he had been a correspondent of the Academy. He received a grand prize and a gold medal at last year's Paris Exhibition.

The Trustees of Sir Robert Peel have instituted a suit against a Paris picture-dealer for the recovery of six pictures which, they contend, were improperly disposed of. The defendant pleads good faith, and contends that the trust should not be recognised by a French tribunal.

The Annual Meeting for the election of Fellows of the Royal Society has been held, with the following results :—Professor Alfred William Alcock, M.B., Frank Watson Dyson, M.A., Arthur John Evans, M.A., Professor John Walter Gregory, D.Sc., Captain Henry Bradwardine Jackson, R.N., Hector Munro Macdonald, M.A., James Mansergh, M.Inst.C.E., Professor Charles James Martin, M.B., Major Ronald Ross (I.M.S., retired), Professor William Schlich, C.I.E., Professor Arthur Smithells, B.Sc., Michael R. Oldfield Thomas, F.Z.S., William Watson, B.Sc., William C. Dampier Whetham, M.A., and Arthur Smith Woodward, F.G.S.

The Bishop of Bath and Wells dedicated last week the west front of the Bath Abbey, which has just been restored under the direction of Mr. T. G. Jackson, R.A. The cost of renovation has been about 2,000*l.* The more expensive work of repairing the flying buttresses, which was not originally contemplated, is still proceeding, and will, it is expected, bring the total cost to between 5,000*l.* and 6,000*l.*

The Marquis de Balleroy has sold to Mr. J. Pierpont Morgan the four famous tapestries, with subjects after Boucher, which have long been at the Château de Balleroy. The price paid is stated to be 2,000,000 frs.

The Chapel within Carisbrooke Castle, Isle of Wight, is to be restored as a memorial of King Charles I. The Office of Works gave permission some time ago, but on the condition that 1,000*l.* was subscribed before any operations were commenced.

The Wesleyan Chapel Committee have sanctioned the erection of thirty new places of worship in various parts of the country at an estimated expenditure of 72,500*l.* One of these new cases is the Seamen's Home, &c., at Poplar, the outlay on which is 13,600*l.*

The Late Mr. Arthur Cates, who died on May 15, aged seventy-two years, has left personal estate of the net value of 174,064*l.* 18*s.* 11*d.* He has bequeathed 1,500*l.* to the Royal Institute of British Architects for an "Arthur Cates Prize," 1,500*l.* to the Architects' Benevolent Society, 500*l.* to the benevolent fund of the Surveyors' Institution, and 500*l.* to the charitable fund of the Surveyors' Club.

A Recumbent Effigy of the late Duke of Westminster is to be placed in the south transept of Chester Cathedral, which is undergoing restoration, as a county memorial to him.

The President of the Local Government Board has appointed Major-General H. Darley Crozier, R.E., to be chief engineering inspector of the Local Government Board, in the place of Major-General C. Phipps Carey, R.E., who has retired. Mr. G. Waller Willcocks, M.I.C.E., has been appointed deputy chief engineering inspector, in succession to Major-General Crozier. The President has also appointed Mr. Brook Taylor Kitchin to be architect to the Local Government Board, in the place of Mr. P. Gordon Smith, who has retired.

The British Association of Waterworks Engineers held their sixth annual general meeting at Birkenhead during this week. Visits were made to local waterworks, manufactories, &c. Mr. W. A. Richardson presided.

The Northampton Town Council passed the plans of the alterations to the Opera House, Guild Hall Road, prepared by Mr. John P. Briggs, Effingham House, Arundel Street, Strand, W.C., at their monthly meeting held at the town hall on June 3. The alterations are extensive; new entrances will be formed from Guild Hall Road, and new crushrooms provided to dress circle and upper circle. The pit will be considerably enlarged, and two new exits formed from this popular portion of the house into Carter Street. Three rows of orchestra stalls are to be added, which will be a distinct improvement. The whole of the building is to be redecorated and an installation of electric light provided. The theatre will be ready for opening early in the autumn.

A New Congregational church which has been erected at Oakleigh Park, Whetstone, Barnet, was opened on the 10th inst. The new building stands at a corner of the New Southgate Road, scarcely a hundred yards from the Barnet main road. It is of red brick, with numbers of large round-topped windows, the entrance doors being flanked by two low, square towers, between which is a large window. The interior is also of red brick, and is lightened by these windows and also by a high wooden panelling stained in two shades of green. The seats and the open woodwork roofing are also stained light green. At the eastern end is an apse.

Lord Lister, F.R.S., will open the new operating theatres and children's ward at St. Thomas's Hospital on June 20. The theatres have been fitted with all the latest improvements for the carrying out of aseptic surgery, and the new block of buildings is provided with an artificial system of ventilation. The children's ward is elaborately decorated with pictorial representations of fairy tales and nursery rhymes in tiles, the expense being defrayed by one of the Governors of the Hospital.

A New Congregational church at Churchtown, Southport, was opened on the 5th inst. The building, which has cost 2,600*l.* and will give accommodation for 700 persons, replaces one which was erected in 1830, and subsequently enlarged. Mr. Francis P. Halsall, A.R.I.B.A., Southport, is the architect.

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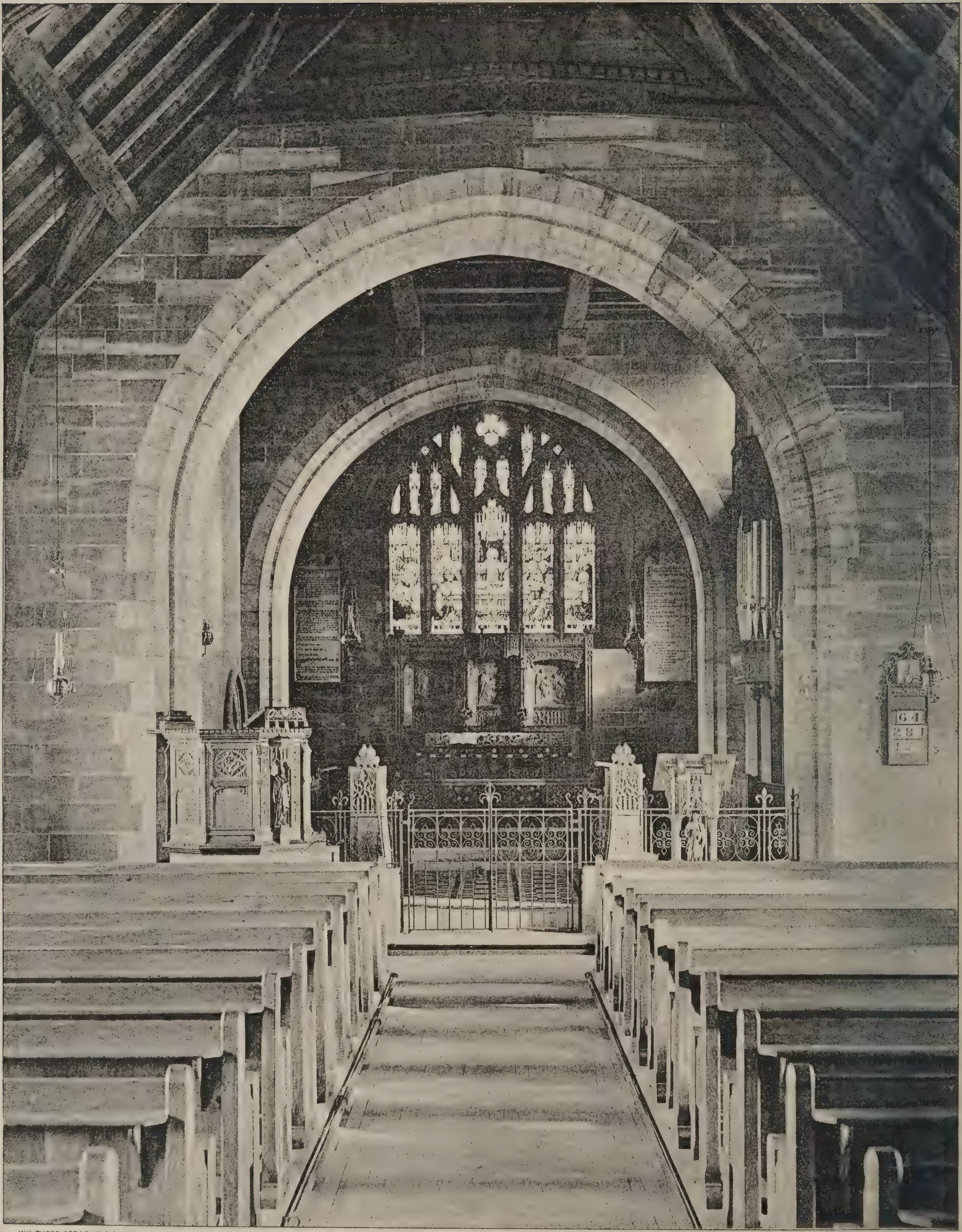

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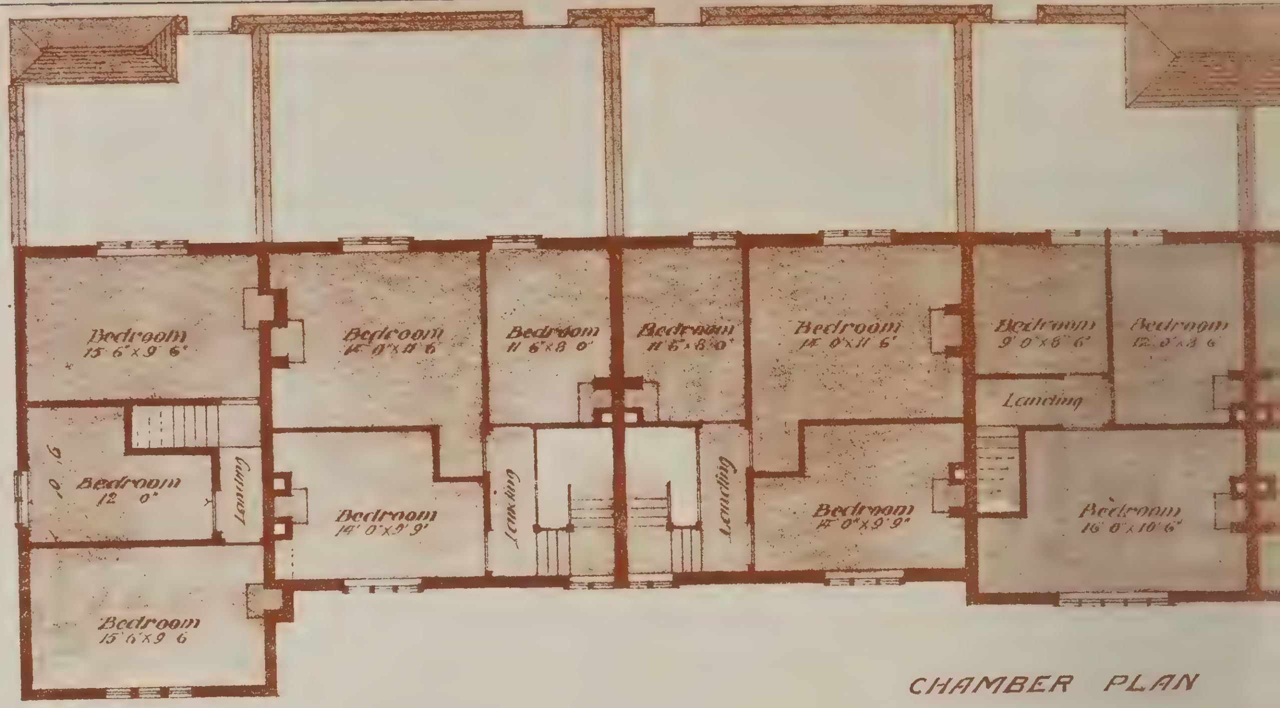
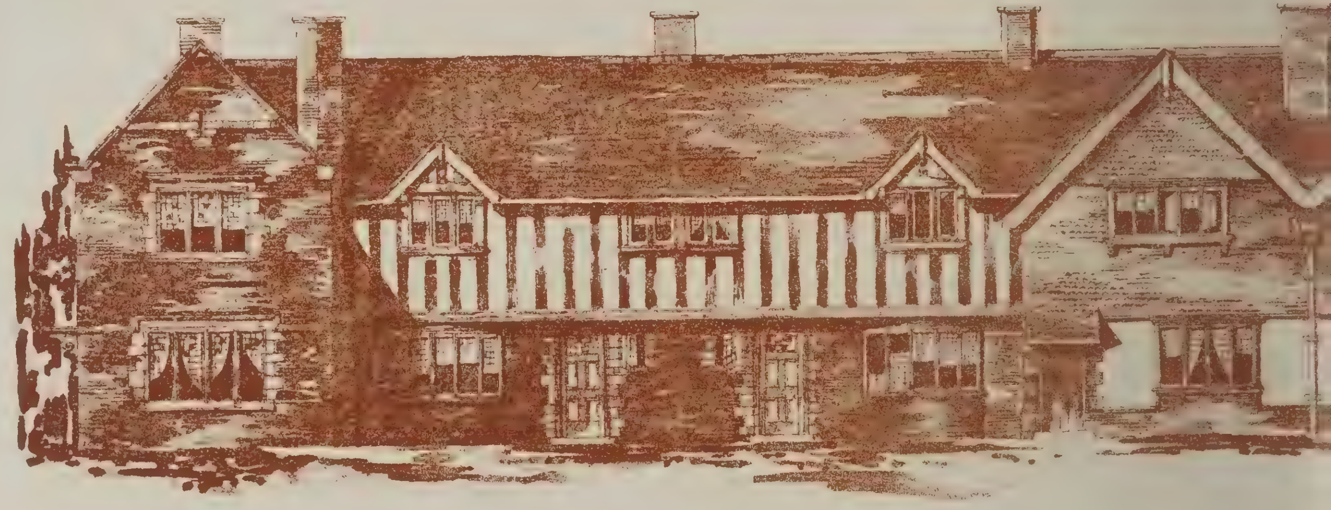
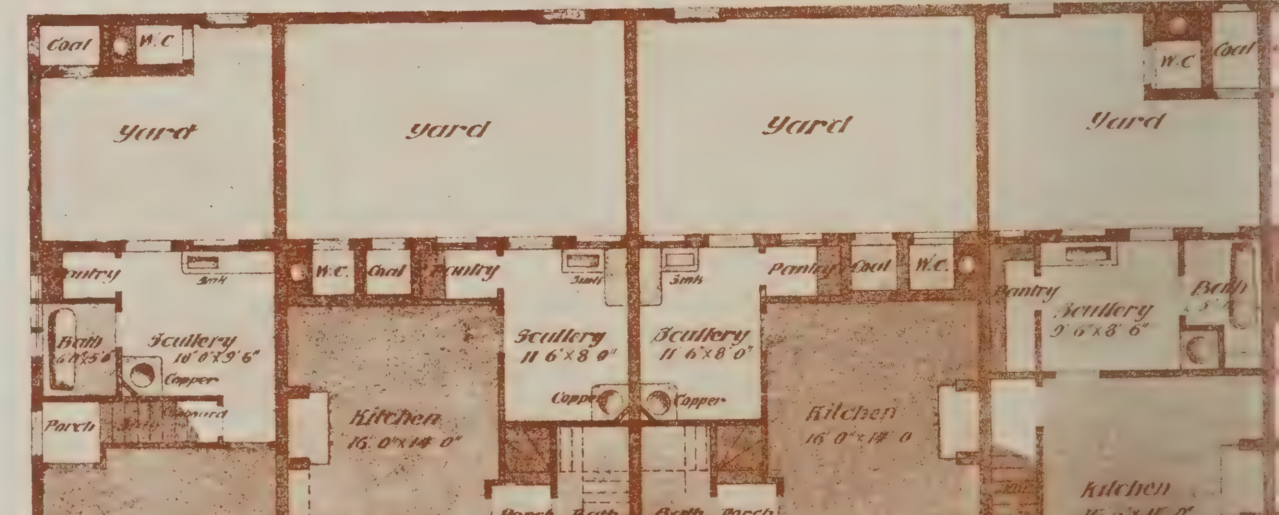


CHAMBER PLAN



FRONT ELEVATION.

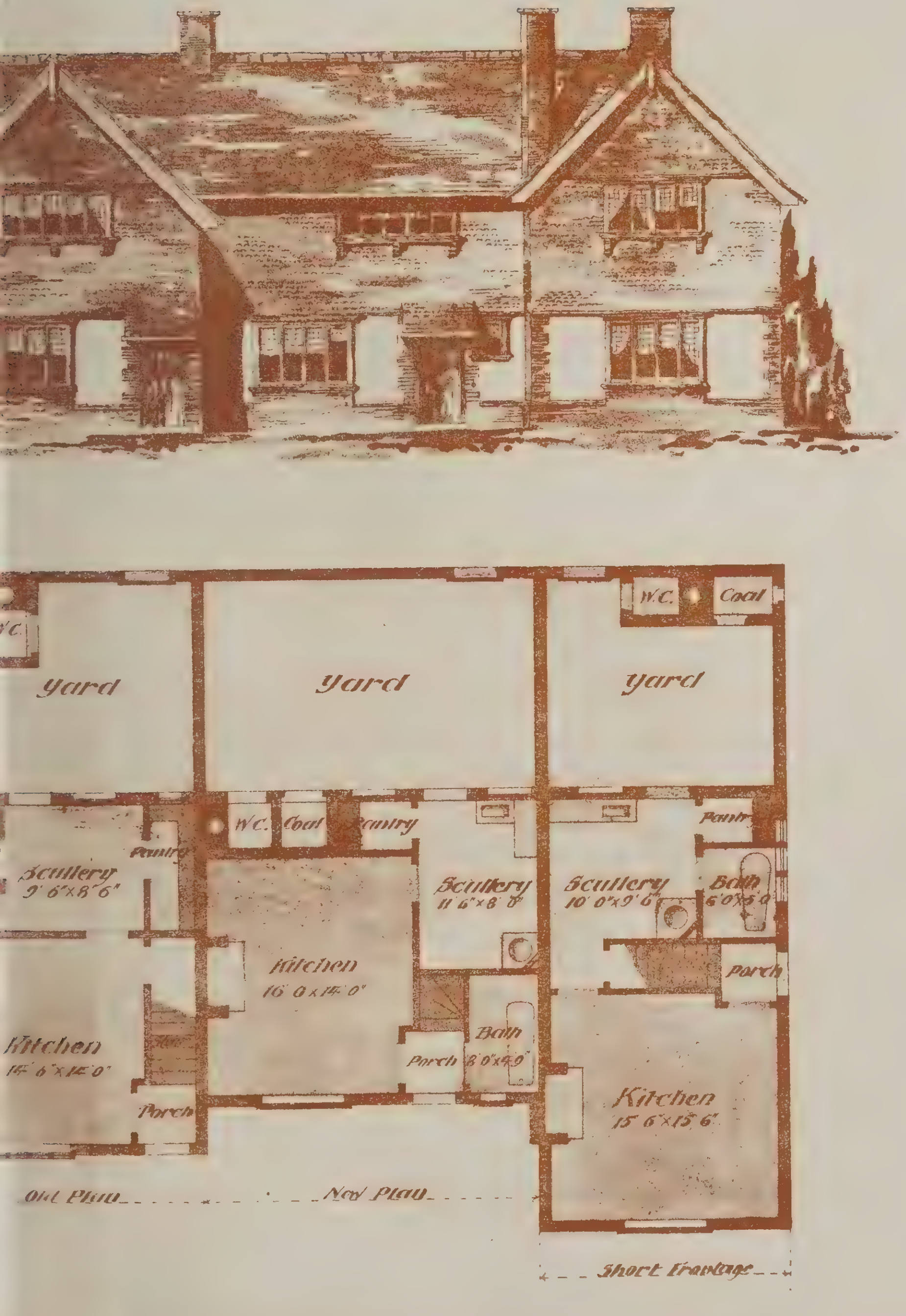


GROUND PLAN.

Messrs Lever Bros. Limited.
Port Sunlight.

Sketch Design for Group of Seven Cottages
Alternative

BLOCK D.



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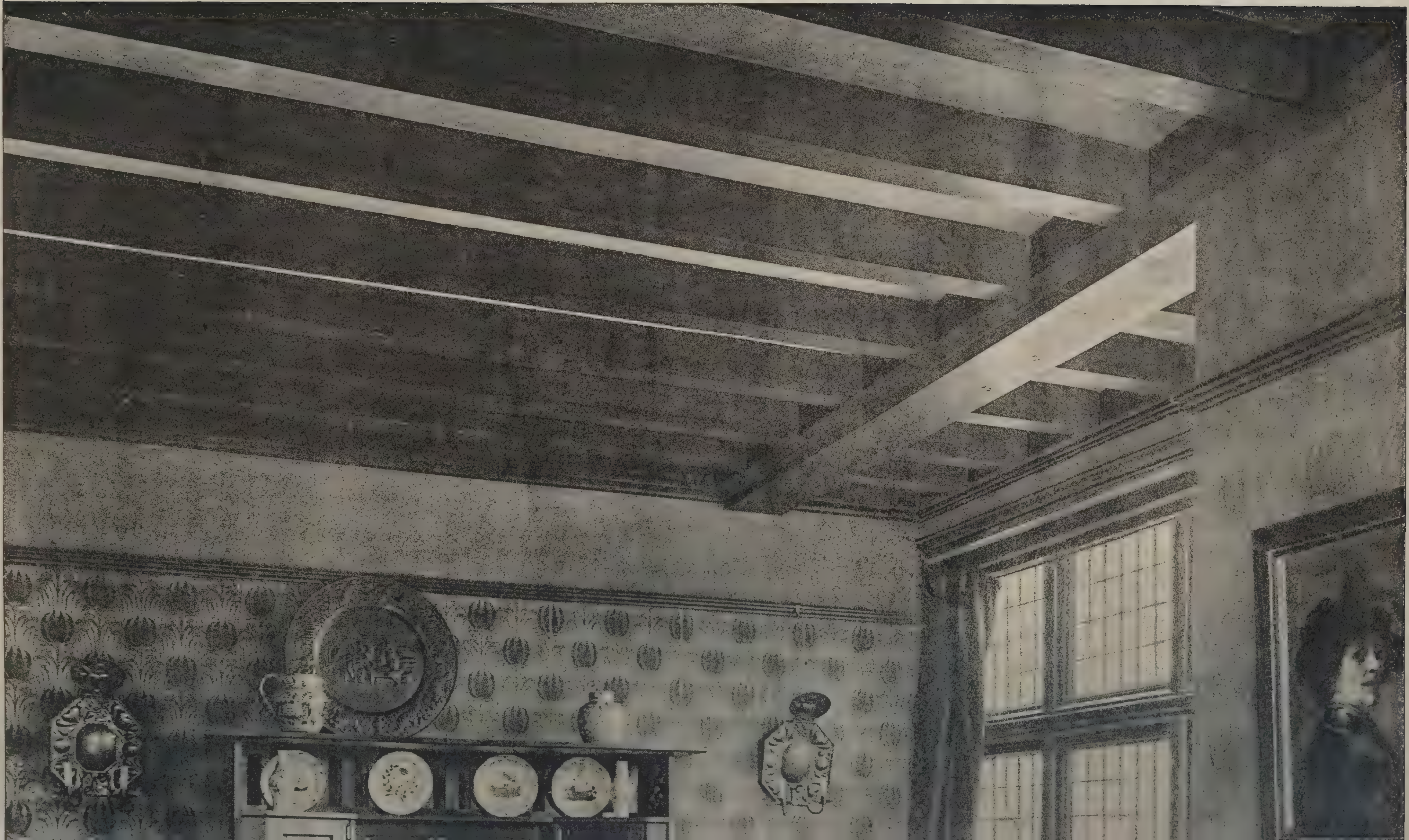
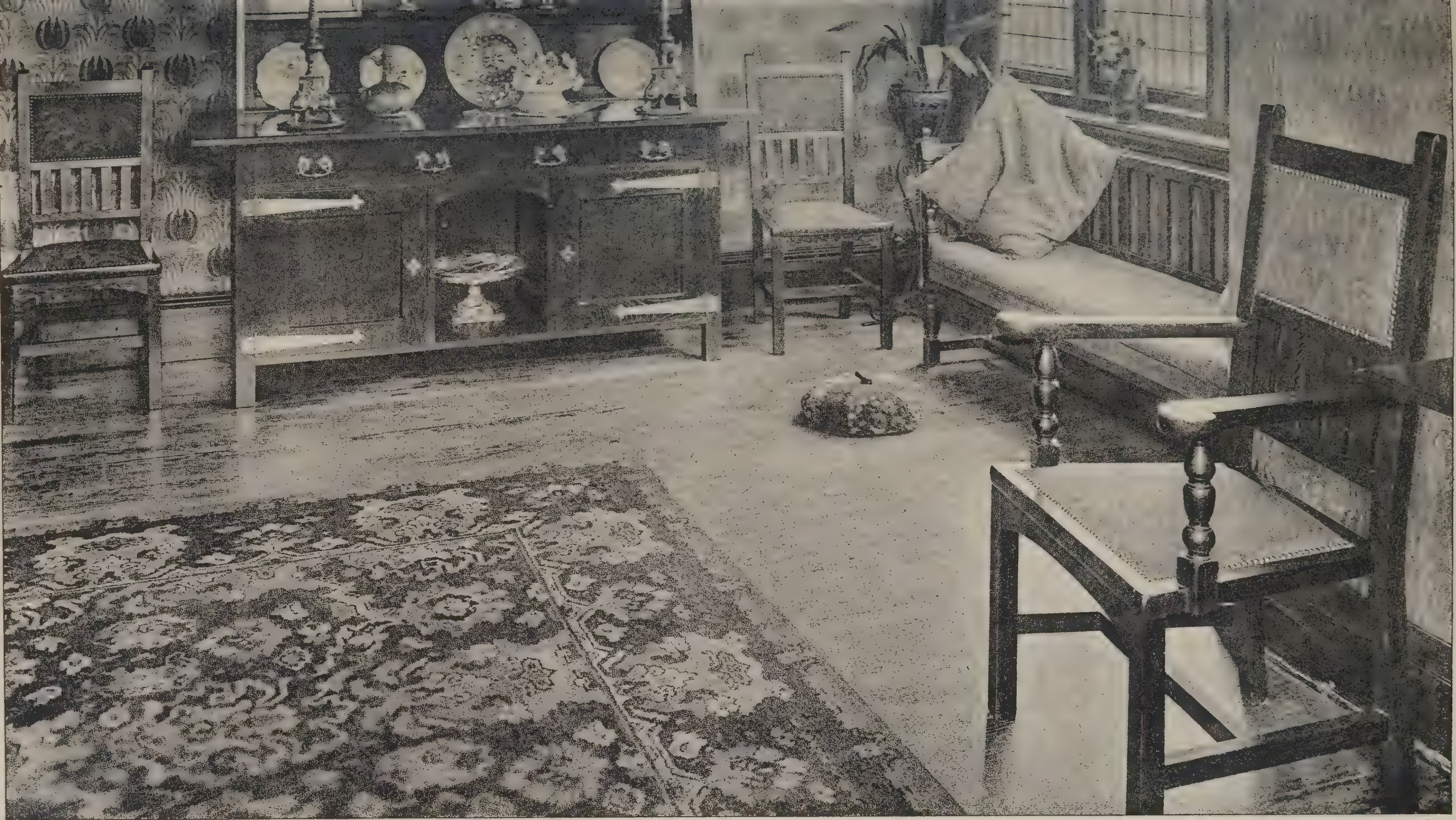
The Architect, June 14th 1901.





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HOUSE AT COBHAM: CORNER OF DINING ROOM.

L. MARTIN, Architect.

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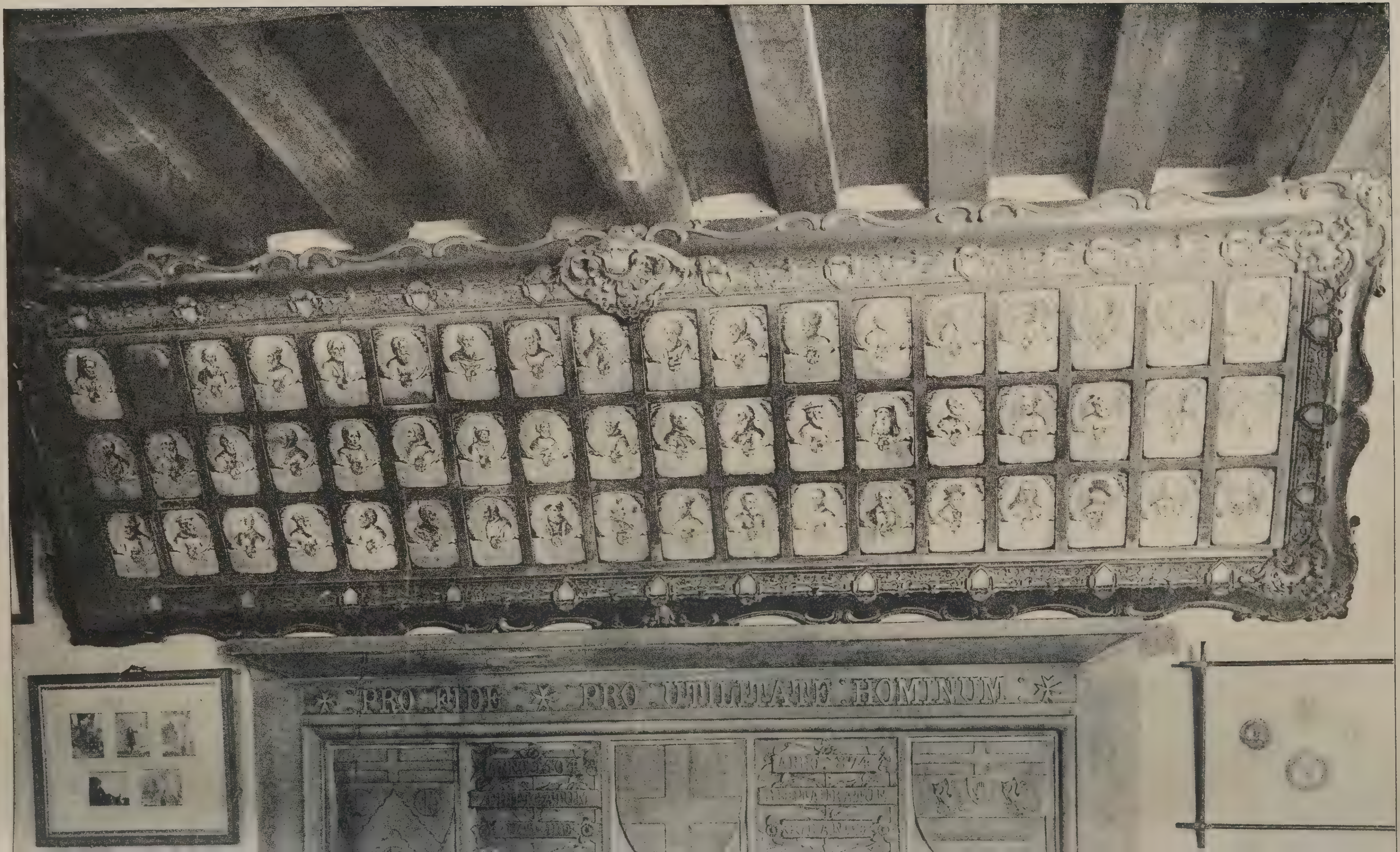
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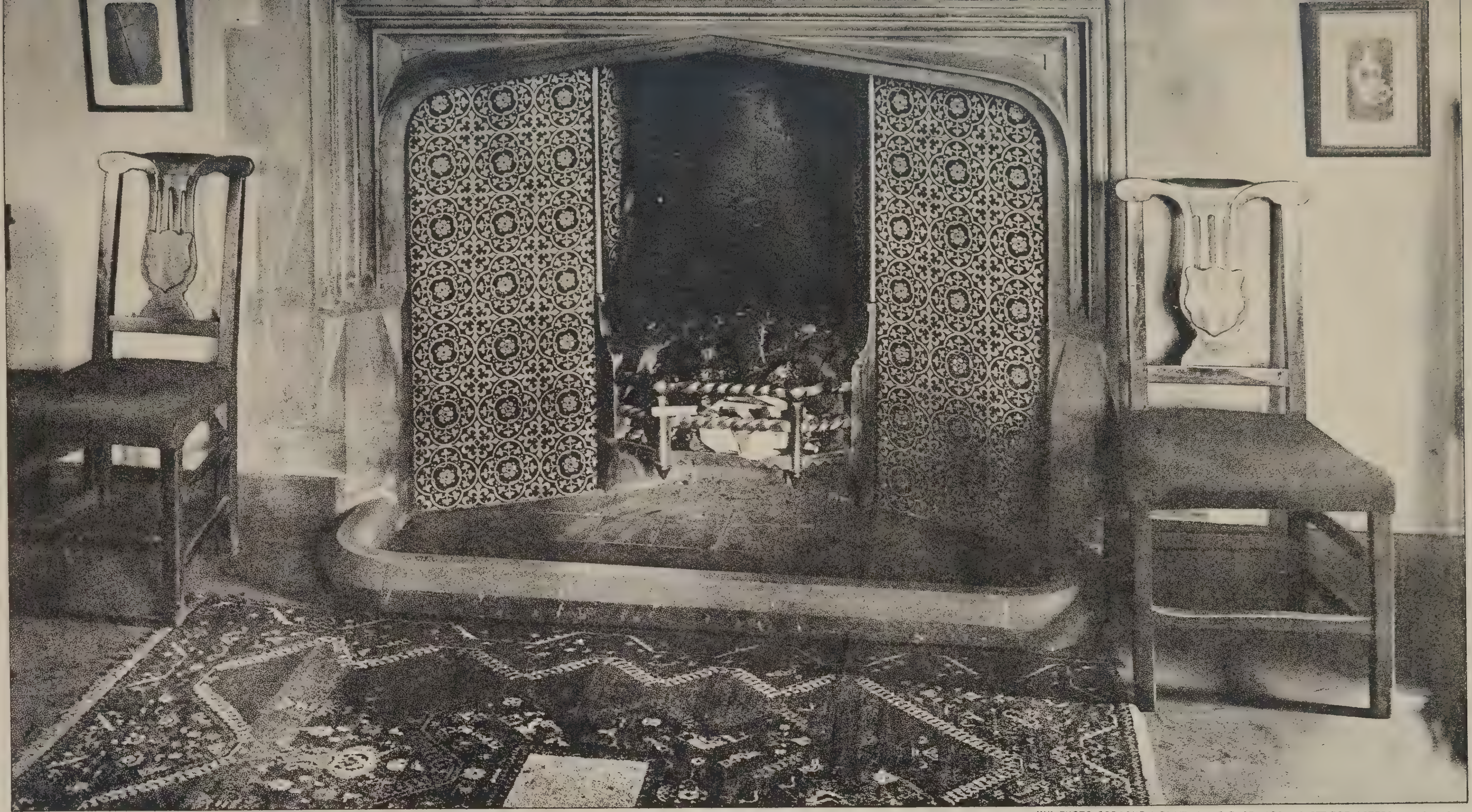

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ST. JOHN'S GATE: FIREPLACE IN SIR H. PERROTT'S ROOM.

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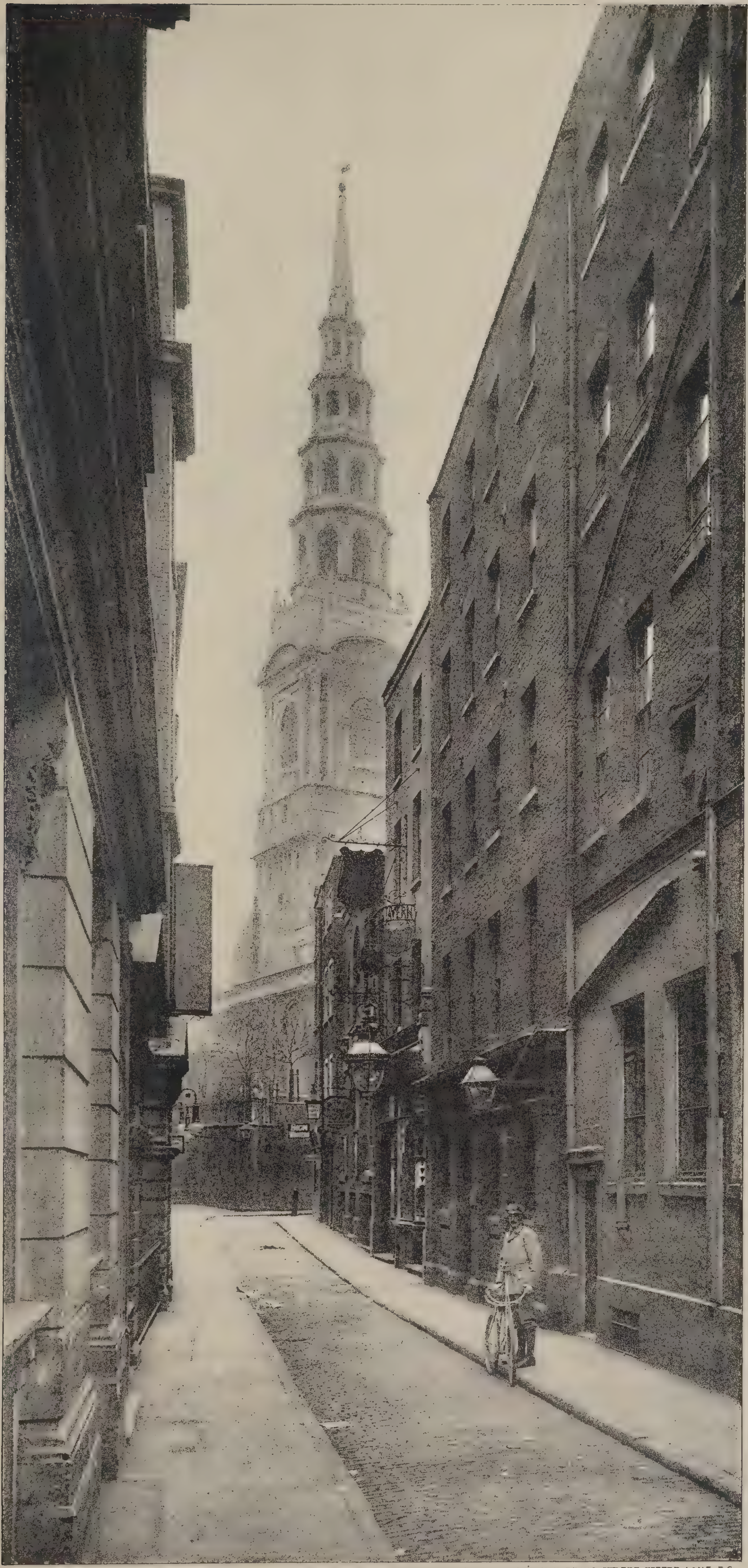
The Architect, June 14th 1901



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St. Bride's Church, from Bride Lane.

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The Architect.

THE WEEK.

Some of the local authorities of the Metropolis look askance upon artisans' dwellings which belong to private owners. A case was recently tried which reveals an effort to have a block of the kind known as Gun's Buildings, in Southwark, treated as a common lodging-house, which should be registered and particulars supplied of the occupants. The owner of the property contended that each tenement, though it might comprise only a single room, was a separate dwelling-house, and that the persons residing therein were not lodgers, but occupying tenants; their names were on the rate-books; they were in possession of the Parliamentary franchise, and in a position similar to that of occupiers of West-end flats or chambers in the Temple. The magistrate dismissed the summons on the ground that the lodgings were not tenements, but were separate houses. The vestry thereupon appealed. The Lord Chief Justice, in delivering the judgment of the Court, said they regarded the "buildings" as a collection of houses for the purpose of the section; there was no front door, but a common passage and common staircases on which open a number of front doors which may be locked, the tenements being separately occupied. If any one of those tenements were let in lodgings, or if a room were occupied by members of more than one family, then the particular landlord of that particular house would come within the terms of the section. His lordship expressed the opinion that it would be going too far to say that the whole structure of bricks and mortar was a house, or part of a house, let in lodgings or occupied by members of more than one family, simply because these were separate tenements and separate occupations under the circumstances stated in the case. The appeal was accordingly dismissed with costs. The London County Council are considering the whole question of the housing of the working classes, but any proposal to treat tenants like those in ordinary model dwellings, as if they were no more than the casual occupants of a registered lodging-house, is sure to end in failure.

The Reichstag, or Imperial Parliament House in Berlin, can hardly be regarded as a great architectural work, but it is a novelty and unique in its purpose. On that account a departure from the severe and stereotyped style of Berlin was to some extent allowable. To commemorate the first Imperial Chancellor it was, we suppose, necessary to have a statue of Prince BISMARCK in front of the building. As became so great a man, he disliked portraits of himself in bronze or marble, for he knew that his fame would be as enduring without their help. Moreover, he could not have been satisfied with the figures of himself which are to be seen in so many German towns, forming part of the memorials of the Emperor he assisted in creating. The statue by Professor BEGAS shows the Prince in the familiar Cuirassier uniform, for in any other costume the warrior statesman would hardly be recognised. The German mind appreciates symbolic figures, and with all his stern realism BISMARCK was in that respect like his countrymen. Accordingly statues of the national hero SIEGFRIED, who is seen forging the famous sword, GERMANIA trampling on the dragon, ATLAS carrying his globe, and the Muse of History flank the pedestal. Is it necessary to always represent BISMARCK as a truculent soldier? Professor BEGAS has complied with the popular idea, and on that account his memorial may hereafter be less admired than it is at present.

The Irish County Councils are not satisfied with keeping their engineers and assistant engineers in a hopeless condition by declining to hold out any prospect of an advance of their salaries, they appear to be no less eager to treat their contractors as if they were without any claims on account of building works which they had carried out. In 1895 Messrs. H. & J. MARTIN, Limited, of Dublin, entered into a contract with the Commissioners of Asylums for the erection of an asylum in County Antrim. In 1900 the new County Council took over the building. The contract amount exceeded 60,000*l.* In November, 1900, the architects certified that Messrs. MARTIN were entitled to the sums of 2,000*l.* and 165*l.*; the money was not paid. Afterwards Messrs. MARTIN made claims for extras, and the County Council put in a counterclaim for delay. The case was submitted to arbitration, and Messrs. MARTIN were awarded 1,900*l.* odd. It was to be expected that the three sums would at once be paid, but the Council seemed to be disposed to ignore the awards. It was necessary to take an action to recover the money. Judgment was, however, given in favour of the plaintiffs, but it is to be rendered nugatory, for a stay of execution until August 1 was allowed. Public bodies should set an example of paying their debts promptly, but in this case nearly a year will have to elapse from the completion of the works and the issue of the final certificate until there is a settlement.

The First Commissioner of Works has explained in the House of Commons the position of the Government with respect to the new Government offices in consequence of the loss of Mr. YOUNG and Mr. BRYDON. Mr. AKERS-DOUGLAS pointed out that Sir JOHN TAYLOR, who had retired from the position of principal surveyor, had been appointed to act as consulting architect for the new buildings. In conjuction with him Mr. CLYDE YOUNG, the son and partner of the late WILLIAM YOUNG, is now engaged in carrying out the work for the new War Office. The arrangements which are to be made for the new offices in Parliament Street are under the consideration of the Treasury and of the Office of Works. As the requisite drawings have been completed the works can be executed either by the architects of the department or by an architect especially selected for the purpose. Professional opinion at least would, we are confident, be in favour of the latter course, for Mr. BRYDON had many competent friends who would loyally endeavour to realise his ideas.

A Society of Engineers and Architects has been formed in Shanghai. There are now ninety members. Papers have been read on "The Erection of a Lighthouse at Formosa," on "The Conical Projection of Maps," on "Japanese and Chinese Art and Architecture," &c. The Council have decided to print all papers which are likely to have permanent interest, and whenever possible, especially in the case of papers which may give rise to discussions, they propose to have the papers printed in advance to enable the members to discuss them. But manuscripts must be in their hands four weeks before the date at which they are to be read. Where diagrams are necessary it is recommended that they should be supplied carefully drawn in bold lines suitable for reproduction by photolithography, and large cartoons for hanging on the wall are to be supplied when required. Several papers have been promised for the winter session.

The annual performances in the ancient Roman theatre at Orange would appear to have incited the Italians to utilise the Olympic theatre of Vicenza. It is much more modern than the immense building in Orange, for it was erected from the designs of PALLADIO. It corresponds, however, in a great measure with the Pompeiian theatres, although the architect was not aware of their existence. At the reopening last week the "Œdipus" of SOPHOCLES was represented. It is remarkable that when the theatre was inaugurated four centuries ago the same tragedy was selected, the translation being the work of ORSATO JUSTINIANI. The unfortunate king was then played by LUDOVICO GROTO, a dramatic author who, like ŒDIPUS, was blind. In the recent revival the part was taken by G. SALVINI. The building was erected at the cost of the members of the Olympic Academy of Vicenza. The "Sophonisba" of TRISSINO, a play in which the unities were first observed, was originally performed on the stage of the theatre, which has, therefore, a close connection with the history of the French drama.

INIGO JONES.*

THE evidence of Inigo Jones's skill as an architect is unhappily less convincing than in the case of Wren, for his representative work, the Banqueting-house, is only a fragment; but it must be admitted that the admiration of architects is more in favour of the earlier master. Great as Wren undoubtedly was, it is impossible to have a fellow feeling with him. Men, like the late Dean Milman, who know little or nothing of architectural practice, and who imagine it to be as easy to erect buildings as to form castles in the air, may be satisfied by the explanation that Wren "suddenly burst forth as an architect," but the laws of probability are not in favour of a phenomenon of that kind. The power of designing resembles one of those plants of slow growth which may never attain perfection. Wren was a mathematician, an astronomer, a physicist, an administrator, but we have nothing to show how he became an artist or by what process he acquired the power to raise buildings which will bear comparison with those of France or of Italy.

The biography of Inigo Jones is more obscure than Wren's. But we know enough to be able to say that he went through the ordinary process which in his time was supposed to be most effectual for the creation of a great architect. Wren was willing to give his skin, as he said, for a few drawings by Bernini; and for all we know to the contrary, he may have paid a liberal price to foreign architects for special designs. But Jones went, as it were, to the fountain-head from which power was to be derived, and there is nothing to show that he ever stood in need of assistance. It must always be remembered that Jones was subjected to a more microscopic criticism than the majority of artists, ancient or modern. Ben Jonson hated him, and did not spare Jones's "wrought night-cap" and "velvet jerkin." Evidently he looked upon the architect as the most arrogant of mortals, and described his weaknesses, as Howel said, "with a porcupine's quill dipt in too much gall." But in all Jonson's sarcasms there is not one line to suggest that his enemy was dependent on any English or foreign artist for the slightest help. It would have been easy on the least hint of Jones's employment of another to magnify the inability of the architect, but all that could be implied was that Jones's self-sufficiency had made him intolerable to those who co-operated with him:—

> What makes your wretchedness to brag so loud
> In town and court? Are you grown rich and proud,
> Your trappings will not change you?—change your mind!
> No velvet suit you wear will alter kind.
> What is the cause you pomp it so? I ask,
> And all men echo you have made a masque.
> I chime that, too, and I have met with those
> That do cry up the machine and the shows:
> The majesty of Juno in the clouds,
> And peering forth of Iris in the shrouds:
> The ascent of Lady Fame, which none could spy,
> Not they that sided her, Dame Poetry,
> Dame History, Dame Architecture, too,
> And Goody Sculpture brought with much ado
> To hold her up.

It was certainly a weakness in Jones to endeavour to show he was a protégé of Dame Poetry, and from what we know of his speculations about the ancient Romans in his book on Stonehenge, it is no less evident he was only distantly related to Dame History. Jonson therefore could claim a palpable hit in both cases, but in architecture, and it may be in sculpture also, there could be no doubt of Jones's legitimacy. Indeed, Walpole said that he saved England from the disgrace of not having her representative among the arts. For this favoured child, he adds, "Vitruvius drew up his grammar, Palladio showed him the practice, Rome displayed a theatre worthy of his emulation, and King Charles was ready to encourage, employ and reward his talents."

In modern times it is found that able architects are generally born in cities. Jones was a cockney, his family living somewhere near St. Paul's, and he commenced to inhale London air in 1572. His father, Ignatius Jones, was a dealer in wool or cloth. The Christian name was not one which would promote the fortunes of either father or son; it was not only a Spanish name, and therefore hateful to the English, but it also recalled the founder of the Jesuits, who were supposed to be no less inimical to England. Jonson called the architect "Assinigo" and "Inigo Marquis Would Be." It is said he was bound apprentice to a joiner, which was no bad beginning for an architect. He was undoubtedly a bright lad, for he attracted the attention of William, Earl of Pembroke. It was then thought his aptitude was for landscape-painting, and Walpole speaks of a small picture by him in which "the trees were freely and masterly imagined." The sight of the buildings in Rome awoke the latent genius. "He felt," says the same author, "that nature had not formed him to decorate cabinets, but design palaces. He dropped the pencil and conceived Whitehall. In the state of Venice he saw the works of Palladio, and learned how beautifully taste may be exerted on a less theatre than the capital of an empire." It was said he designed a palace and the front of a church at Leghorn. If so, the buildings have not been identified. But Jones must have given evidence of ability in Rome or Venice (in the latter city he resided several years), for otherwise he would not have been invited by Christian IV. to Denmark. Whether he had any share in the palaces of Frederiksborg and Rosenborg is doubtful. If we are to accept the statement of Webb, his son-in-law, Jones's reputation was well established on the Continent, for according to him "Jones was not only the Vitruvius of England, but likewise, in his age, of all Christendom, and it was Vox Europæ that named him so, being much more than at home famous in remote parts, where he lived many years, designed many works, and discovered many antiquities before unknown, with general applause." Whatever might have been the extent of his work in Denmark, his visit to that country was a fortunate one, for it led to his return to England under royal auspices. The queen of James I. was a Danish princess, and Her Majesty appointed Jones as her architect. He found favour with Prince Henry, who was the hope of the people at that time, and obtained an appointment from him with reversion of the office of Surveyor-General. With James I. as king there was not much scope for Jones's services as an architect. His Majesty was philosophic, and was too content with the buildings in which he resided to expend money on great palaces. Jones's versatility, however, could be utilised without much expense, and accordingly, like Leonardo da Vinci, he was employed to arrange Court pageants. In England they took the form of masques and seemed to be anticipations of the extravaganzas and pantomimes of our time. According to Leland, the first attempt of Jones was in Oxford, where, however, he was unable to realise his promises, although he received a fee of 50*l.* Painting and carpentry, says Jonson, are the soul of masque, and Jones appears to have been stage carpenter, scene painter, mechanist and property man. They were undoubtedly ambitious efforts which he produced, for we hear of wreathed shells which rose with the billows, sea-horses as large as life, sea monsters of various shapes carrying torch-bearers. Real water, that delight of one class of sightseers, was also lavishly introduced, for, as described by Jonson, in the Masque of Blackness, "the scene behind seemed a vast sea, and united with this that flowed forth, from the termination or horizon of which (being the head of the state, which was placed in the upper end of the hall) was drawn by the lines of perspective, the whole work shooting downwards from the eye, which decorum made it more conspicuous and caught the eye afar off with a wondering beauty, to which was added an obscure and cloudy night-piece that made the whole set-off."

We could not imagine Wren's fancy having the lightness which was necessary for such spectacles. He might have superintended the work, but the material part could not have been either designed or manipulated by him. It is to be regretted that no trace remains, beyond Jonson's descriptions, of visions which must have equalled those raised by Prospero's magic. We may be certain that Jones revelled in the opportunities to represent cloud-capped towers and gorgeous palaces more beautiful than any he was able to erect in stone. One of the masques was to celebrate the auspicious marriage between the Earl of Essex and the daughter of the Earl of Suffolk. It was only, however, a prologue to a tragedy, for before the reign of James I. ended the Countess and the Earl of Somerset, whom she had married after her divorce from Essex, were tried for their connection with the murder of Sir Thomas Overbury. Inigo Jones, with other officers of His Majesty's Works, were ordered to erect the timber structures which were required for the trial.

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* *Some Architectural Works of Inigo Jones*: a Series of Measured Drawings and other Illustrations, together with Descriptive Notes, a Biographical Sketch, and a List of his Authentic Works. By H. Inigo Triggs and Henry Tanner, jun. (London: B. T. Batsford.)

In 1612 Prince Henry died, when Jones lost his appointment as the Prince's surveyor. Then succeeded an interval of rest, for the following year he journeyed to Italy, and from memoranda in his copy of Palladio it is evident he visited Tivoli, Rome, Naples and Vicenza. Apparently the object of his travels was to give an especial study to the works of Palladio. Every man of note in the sciences and arts must follow his own system of education, and it is quite possible that such work as he had performed in England revealed to Inigo Jones many shortcomings which were unobserved while he was making drawings of ancient buildings. He said that on his return to England he applied himself "more particularly to architecture," and we suppose he sought on his second journey to Italy the skill which would enable him to treat details as well as masses. It would, perhaps, have been better if he had given his attention to old English buildings. Elizabethan examples presented many incongruities that were sufficient to horrify a man like Jones, but there was earlier work in the country which could have been adapted to his purposes. As became, however, a Renaissance artist, he believed that the Italian style could be universally adopted, and his mission was to introduce it in England.

In 1615 the Surveyor of Works died, and Inigo Jones became his successor. He wore livery, was paid 8*s.* a day for entertainment, 2*s.* 8*d.* daily for travelling expenses, and 80*l.* a year as salary. He was kept very busy, but apparently an economical spirit then prevailed, and the architect was restricted in his expenditure. The Banqueting-house at Whitehall cost 17,000*l.*, and Jones was paid 8*s.* 4*d.* a day while engaged on it, with 46*l.* a year for house-rent. In 1625 James I. departed from this life, and the funeral hearse, or catafalque, was designed by Inigo Jones.

The architect was confirmed in his office under Charles I. Before the king came to the throne one or two works entrusted to Jones must have given him peculiar pleasure. In those days the erection of churches for Roman Catholics was sternly prohibited. But it was decided that the Infanta of Spain, who was to be the bride of the Prince, should have a chapel in Somerset or Denmark House. That project failed, but similar arrangements were made for the services which Henrietta Maria was to attend after her marriage, for it was agreed that she was to have a chapel in every royal palace and in every place in which she might reside. Under Charles I. the architect occupied a distinguished position. He was a courtier, and seemed born to command. Many of the nobility and gentry were glad to have residences designed by him, and it would appear as if the greater part of his time was occupied with private rather than with public buildings. From his connection with the Court and royalists it was inevitable that when the Civil War broke out he should be numbered among the cavaliers. Vandyke in the Houghton portrait gives him the bearing of a very proud one. In 1645 he was taken prisoner in Basing House. "He was gotten thither," said a writer of the time, "for help to the house. He was an excellent architector to build up, but no engineer to pull down." In the next year he was compelled to pay the large sum of 545*l.* as a fine. He had then an office in Scotland Yard, where he and Nicholas Stone, the mason and sculptor, concealed all their ready money in the ground. But as they were afraid of informers, they reburied the gold in Lambeth Marsh. According to Walpole, grief, misfortunes and age terminated the life of Inigo Jones. He died at Somerset House on July 21, 1651; he was interred in the church of St. Benet, Paul's Wharf, where lay the bodies of his father and mother. His white marble monument, for which he left 100*l.*, was destroyed in the Great Fire.

Walpole considered the works of Inigo Jones as not scarce, though some that bore his name were productions of his scholars, while some indeed were not one nor the other. He gave a long list. In the volume by Messrs. Inigo Triggs and Henry Tanner, jun., a more complete list is appended both of existing and non-existing works, as well as others that are attributed to Jones. Two London mansions which existed in the nineteenth century are not mentioned. One was the Duke of Bedford's, which according to James Elmes occupied the whole north side of Bloomsbury Square; and, with its spacious gardens and pleasure grounds, filled the entire areas of Tavistock and Russell Squares. "I well remember it," he adds, "as a complete Italian villa, carefully adapted to our variable climate, and containing among its state apartments an extensive picture gallery." Elmes also describes Harcourt House on the west side of Cavendish Square as "built to endure for ages and for the occupation of a noble English family which can boast, like the Italian notables of old, that it was built by their ancestors generations ago, and has never been occupied by any but of their own race." A bust of Inigo Jones was said to occupy a conspicuous position in the principal front. Elmes is not always trustworthy, but in both cases he claims to have been acquainted with the houses.

The buildings which are the subjects of the plates are the Queen's House, Greenwich; the Banqueting-house, Whitehall; Whitehall Palace, from the original drawings; Castle Ashby, Northamptonshire; York Water Gate, London; entrance to the Physic Garden, Oxford; Raynham Hall, Norfolk; Stoke Bruerne Park, Northamptonshire; Old Somerset House, from a drawing in the Soane Museum; Cranborne Manor House, Dorsetshire; West Woodhay House, Berkshire; Kirby Hall, Northamptonshire, gallery and ceilings; Wilton House, Wiltshire; Ashburnham House, Westminster; Lindsay House, London, from an old drawing; Coleshill House, Berkshire; Forde Abbey, Dorsetshire; and Beckett Park, Berkshire. There are also several illustrations in the text. The drawings, it is stated, were in nearly every case laid down on the spot. They have consequently an accuracy which is not to be found in Kent's engravings. Besides, Inigo Jones is to be valued in a great measure for his skill in detail, and in the plates the details are rendered with creditable fidelity.

Jones can be regarded as a revolutionist in English architecture. He endeavoured to supersede what he considered as nondescript work by a treatment that corresponded with that of Palladio and other favourites. His Banqueting-house, if found in Italy, would appear to be the creation of a native. In our time we pay more attention to the physical conditions of England, and if our adaptations of Italian depart more widely from the originals, they are better suited to meet the difficulties offered by lighting and weather. The details shown in the plates are therefore valuable, for they are suggestive and adaptable. Inigo Jones was also a stickler for symmetry, because without it he did not believe it was possible for a building to be dignified. There are many architects who would agree with him, but in most buildings some modification has to be introduced.

George Chapman, the translator of Homer, described Jones as the most generally ingenious and learned architect of his time, and it may be doubted whether since 1616 any English architect has arisen who would be held more worthy of a like eulogium. The new volume which exemplifies his work is worthy of the subject. There is no scamping of any part or striving after effect at the expense of the original composition. Inigo Jones's buildings are shown in a style which does justice to the most characteristic parts of them, and, if possible, the architect will be more esteemed now and hereafter than formerly. Messrs. Inigo Triggs and Tanner have produced a collection of plates such as was long desired by architects, and the reputation of the great artist to whom so much is owing would be upheld by their book, even if his buildings were destroyed.

Mr. J. Chamberlain has appealed to the Birmingham City Council for municipal support of the new university. According to him a halfpenny rate would yield annually 5,000*l.*, and such a grant would justify the council of the university in proceeding with the new engineering departments, the need of which, in view of foreign competition, becomes daily more urgent. The subject is under consideration of the general purposes committee.

OFFICE MANAGEMENT.*

OLD practitioners are occasionally heard to lament the change which has taken place in office routine, and which affects both architects and engineers. There was a time when the staff of a celebrated engineer in Westminster would consist of only a confidential assistant and an office boy. Plans and sections were prepared by some former pupil who had an office of his own, and it may be a large staff of assistants. Designs for bridges and other structures were got out by a specialist. Through that arrangement the chief's office was free from the multiplicity of papers which are now unavoidable even when practice is limited. With architects the custom was less general of preparing drawings in outside offices, but it was accepted as a principle that drawings and other documents were to be as few as possible, both to save trouble and to diminish the chance of any of them being mislaid.

In these days of ours business has to be conducted under conditions through which there can hardly be too many papers relating to a transaction. How the change has occurred could not be explained in a limited space. Office work, like most other operations, has to submit to the law by which the homogeneous becomes the heterogeneous. It is necessary to be prepared for many contingencies which were not reckoned on in old days, and that cannot be done without documentary evidence.

As yet the change in the practice of office business is not general, or, rather, many architects and engineers do not with ease adapt themselves to the altered circumstances. The influence of what was seen in days of pupilage often remains, and it is considered more convenient to keep as near as possible to established ways rather than to attempt innovations which may become perplexing from their elaborateness. The usual experience of what happens in times of transition is repeated, and the known and the unknown are in conflict. Hence it is no doubt that amidst all the books which have been published concerning architectural practice, and all the papers which have been read before societies, the subject of office management remains untreated. Mr. Kaye Parry, who has written a book on the subject, says he waited for over twenty years in the hope that some more experienced pen would attempt to formulate a system. He was not satisfied with waiting, for in the meantime he was developing and improving his own methods. The author has evidently a talent for organisation, and in an office conducted on the plan he has devised business would be got through with satisfaction to all concerned in it. Mr. Kaye's own practice must be extremely varied, and he is therefore able to offer suggestions which could hardly arise to those whose experience is derived from a more special class of work.

The author begins with saying that "the foundation of organised office management is a reliable system of keeping a careful daily record of all business transacted by every member of the staff." If that fact be accepted the necessity of systematic diaries, not only for the principal, but for the principal assistants also, becomes plain. One reason given is the number of small services which are rendered from time to time, and which do not add to the income of the office. Suggestions are given about the manner of keeping various diaries, but the "Every Hour Diary," although it has its advantages, would not be approved by all assistants. A "caller's book" is more of a desideratum, and it would be well to impress on all who receive strangers in the absence of a principal that "many an architect has lost a commission because he happened to be out when the client called, and because some badly-trained or ill-mannered clerk failed to make a favourable impression and allowed a good client to leave the office without giving him a sufficiently courteous reception." It should be added that the majority of people believe the employer's disposition is reflected in his assistants, and when they encounter rudeness in a clerk they form an unfavourable opinion of the man he represents. A client is therefore justified if he seeks an adviser elsewhere.

Buonaparte used to order many letters to be left unanswered because, as he said, time, if trusted, would make the duty unnecessary. A modern professional man cannot imitate that practice although it was inspired by worldly wisdom. Correspondence too often is a waste of an architect's time, for it is not recognised he has as much right to a fee as any solicitor. Mr. Parry gives good advice about the best way of dealing with letters. His method of keeping a journal of the requests or orders in letters produces a record of the most important kind without much labour. Dictation of letters to a shorthand clerk is recommended as well as the employment of a typewriter. In some offices trade catalogues are not treated with much respect. Mr. Parry preserves and arranges them to allow of ready reference. In that way they repay the trouble taken, for they enable comparisons to be drawn between the products of a variety of manufacturers.

No less care, of course, is taken with the classification, numbering, and arrangement of specifications. After they have served their purpose they are preserved in a large press with pigeon-holes, but in all cases, by means of large letters and registration, they become easily accessible. Still more elaborate is the method adopted by the author for the arrangement of drawings. They are kept flat in special cases or held together by means of spring files. One of the many useful suggestions is the keeping of a block book, in which requests for drawings by contractors and others are entered, as well as the date of sending them. When many works are in hand a simple clue is afforded to the whereabouts of the drawings relating to them. The description epitomises Mr. Parry's method:—

> A large board is obtained, at least as large as a drawing-board. This is covered with green baize, and provided with a series of tapes secured by brass nails. The tapes are so fixed as to subdivide the board into a series of rectangles, each of the same size as a lady's ordinary visiting card. A double-elephant board will accommodate over a hundred of these cards; each card has printed on it in bold letters the name of the work, with a large capital letter in red, the rest of the letters being black. Every card has two numbers on it; one of these is the number of the drawer, the other is the number of the work All the cards are arranged in strict alphabetical order on the board. A glance at the board will show the drawer in which the drawings can be found. When a work is completed the card is removed. When a new work is started a new card is prepared. A draughtsman can letter such a card in five minutes with a brush. Every time a card is removed or inserted the whole series is rearranged so as to preserve the alphabetical notation. This can be done very quickly, as the cards are only slipped in under the tapes. The index is therefore always "up to date" and always in order.

For a man of an orderly disposition it must be pleasure to have everything in its place through the means recommended by Mr. Parry. But the desire to test the contents of drawers and cases in order to be assured of their regularity may become too absorbing, and then little time would be left to the manager of the drawing office.

Mr. Parry, in treating of estimates and agreements, reveals his desire to do justice to contractors. The forms adopted by architects may not always win approval from lawyers, but when we learn that one drawn up by a law-agent of the Dublin Corporation led to an action which, after occupying the courts for eighteen or twenty days, ended in a compromise which was unsatisfactory to both parties, it is plain the ordinary conditions of contract are not inequitable. One recommendation is not creditable to Irish clients. In initialling the specification, if a page should not be filled up the contractor is advised to place his initials close to the last paragraph in order to prevent the introduction of a new clause, for the author says "he has more than once come across clients who are unprincipled enough to try to twist and turn such deeds to suit their own base purposes."

There is much else in the book which has value for both architects and engineers. The despatch of business, the cost book, the cash book, day book and ledgers, the annual audit, are important subjects which are as necessary to the successful working of an office as the orderly disposal of drawings and other documents. The nearer such method as Mr. Parry describes approaches the action of a machine the more satisfactory it becomes. It does not need the ability which is required for designing, but artistic powers are more likely to be productive when they are not hampered by disorder in any form. Economy of time and space can be secured by common sense, and nowhere is the quality more needed than in an office where construction in any form is the principal object which is to be attained by labour. If faithfully followed, Mr. Kaye Parry's system would enable principals and assistants to concentrate their attention on the work which is most important in an office, and to perform it with greater efficiency. Disorder is an expensive enemy, and in the book before us we have an explanation of how it can be easily conquered. There can be no doubt that opportunities for trying are to be found in the majority of offices.

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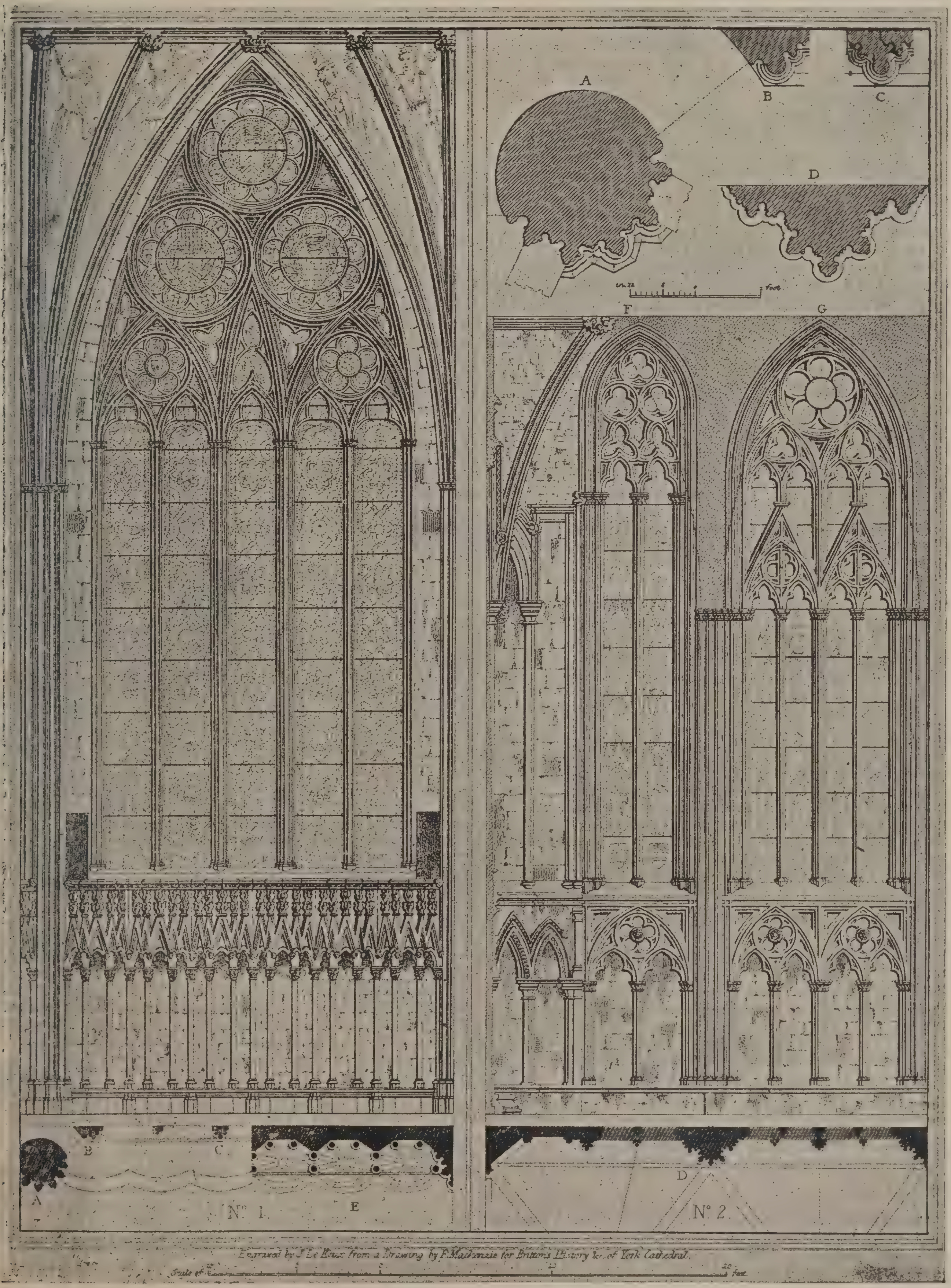
* *Office Management: A Handbook for Architects and Civil Engineers.* By W. Kaye Parry. London: E. & F. N. Spon.

YORK CATHEDRAL: CHAPTER-HOUSE.

Originally the chapter-house of an abbey was placed near the cloister, and there were generally two openings in the entrance door. It is believed the hall was sometimes used for assemblies in which others beside the monks took part, and it was necessary to have space to accommodate the visitors. On that account there was often communication with the abbey grounds or meadow. On the Continent rectangular plans were adopted, especially in the early chapter-houses. The vaulting was generally elaborate, and in some places a central pier from


A
B
C
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feet
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No. 1
D
No. 2
Engraved by J. Le Keux from a Drawing by F. Mackenzie for Britton's History &c. of York Cathedral.
Scale of
20
feet

which the groins sprang became a favourite arrangement. It is not known by whom the chapter-house at York was erected, but it is generally ascribed to Archbishop Walter de Gray. It is entered from the transept; it is 63 feet across, and the height to the middle of the roof is 67 feet 10 inches. According to Drake, the roof is entirely dependent on one pin geometrically placed in the centre. Legends of that kind are common, and it is needless to say there is no authority for it. It is believed the works were in progress between 1284 and 1340, and in that time it is not likely that any freaks of construction would be tolerated.

LIVERPOOL CATHEDRAL.

A SPECIAL meeting of the Liverpool Architectural Society was held on the 13th inst., Professor Simpson presiding, when a report was read on what they consider the best site for the proposed Liverpool Cathedral. They agree with the cathedral committee that the St. Peter's Church and the St. Luke's Church sites are unsuitable, but they disagree with the committee in preferring Monument Place to St. James's Mount. They admit that the latter site is the less expensive, that it is quiet and its surroundings are picturesque, while any buildings erected on it would stand out well. But they think the disadvantages outweigh the advantages. It is inaccessible, and, in an architectural sense, the approach is very bad. The foundations will cause great expense and the orientation of the building cannot be arranged according to the custom of the English Church. The Monument Place site, which the architects favour, is stated by them to have a position and an approach unrivalled in Liverpool. It is near the great public buildings, and near to or in communication with the principal railway stations. The foundation is rock, and it would be of advantage to the city to remove many of the buildings now occupying the site. The surroundings are not of the best, and the architects admit that the Monument Place site would be very costly. They believe it would be better to acquire a part of it and build a portion of the cathedral, leaving the rest for another generation to finish.

On Monday a meeting was held in the Council Chamber, Liverpool Town Hall, in furtherance of the scheme. Lord Derby, lord lieutenant of the county, presided. He said that the movement in which they were engaged was not for the glorification of the town and not even for the building of a greater and more magnificent parish church, but for the erection of a cathedral for the diocese of which Liverpool was the principal town. Referring to the contention which had taken place over the selection of a site, Lord Derby said that in a large town like Liverpool, with its rapid growth and the increasing density of its population, they could not allow matters to stand still for a number of years, and after the lapse of that time expect to find that sites which were open spaces and available when the diocese was formed could still be acquired on terms which might have been possible a decade or two ago. The two sites now mainly occupying public attention were those in Monument Place, London Road, and at St. James's Mount. With regard to the former, if money was absolutely unlimited, and if they could deal with the land as an open space, there was much which would accord with the view of the city architects, and Monument Place might be made an unbounded field for the display of architectural skill. But it was their duty at the meeting to deal with what was practicable, whether at Monument Place or at St. James's Mount. Objection had been raised to the latter site because it was now used as an open space, and it was contended that the building of a cathedral upon it would deprive the inhabitants of the neighbourhood of the only recreation-ground they possessed. But he pointed out that nowadays the churches were not walled in, but were made as beautiful and attractive as possible, so that the ground would still be available for public gardens. Their failure in years gone by to provide a cathedral had been due to the battle of the sites, and although they might wait five or ten years to carry out their object they must not risk a second failure, and he urged the meeting to approve of the St. James's Mount site, which had been adopted by the bishops and the selection committee. The Bishop of Liverpool then moved:—"That this public meeting of the diocese of Liverpool is of opinion that time has arrived when active steps should be taken to provide a cathedral for the diocese." He said that the cathedral they were to build must be worthy of Liverpool, and no one could deny that such an ecclesiastical edifice was absolutely necessary to meet the wants of the diocese. Although every effort had been made to carry on a cathedral service in the church of St. Peter, frequent occasions occurred when its unsuitability was very apparent, and especially when great national services had to be held. Mr. John Brancker seconded the resolution, and said that the reason why the late Bishop had not been urgent in his desire for a cathedral was because he devoted his energies to providing the diocese with churches and men and to increasing the stipends of the clergy, which were sadly too small in the past. Mr. Alfred L. Jones supported the motion, and expressed the hope that, before many months were over, the king would lay the foundation-stone of the new cathedral on St. James's Mount. The resolution was unanimously agreed to, after which the Hon. Arthur Stanley, M.P., proposed a motion in favour of adopting the recommendation of the committee for the St. James's Mount site, and this was seconded by Sir Edward Russell and supported by Canon Stewart. An amendment was proposed to postpone the selection on the ground that this site belonged to the public and should not be taken from its present uses, but the resolution was carried by an overwhelming majority. It was stated that the subscriptions promised towards the scheme amounted to 134,868*l*.

ANTIQUITIES OF GALWAY.

ON July 1 a general meeting of the Royal Society of Antiquaries of Ireland will be held in Galway. It is intended to have several excursions to the Islands of Aran and other places in the county. The following notes are given about the old city of Galway:—

The principal objects of antiquarian interest to be visited in Galway are, first, the church of St. Nicholas, founded in A.D. 1320, which comprises a nave, side aisles, chancel, transepts and central tower.

The church has many interesting architectural features, and there are several tombs and inscribed slabs. There is also an interesting peal of bells, one of which has been traced from Cavron, in the department of Pas de Calais.

In Market Street, near the church of St. Nicholas, the lynch stone will be seen bearing the following inscription:—

"This memorial of the stern and unbending justice of the chief magistrate of this city, James Lynch Fitzstephen, elected mayor A.D. 1493, who condemned and executed his own guilty son, Walter, on this spot, has been restored to its ancient site A.D. 1854, with the approval of the Town Commissioners, by their chairman, Very Rev. Peter Daly, P.P., and Vicar of St. Nicholas."

Doubt has been thrown on the historical accuracy of this dramatic incident. A tragedy, founded on this episode, entitled "The Warden of Galway," by the Rev. Edward Graves, was written and performed in Dublin and London theatres.

There is a building at the corner of Shop Street and Abbeygate Street called "Lynch's Castle," now used as a shop, which shows on the external walls richly carved and moulded stones forming the openings for windows, and in the projecting cornice of the roof there are grotesque heads, also stones with the arms of Lynch and a carved figure of a monkey and child.

A careful examination of the structure will show that these stones, which belonged to an older building, were built into the present house, and are not now in their original position.

On the opposite side of the street there is another house with stones exhibiting some fine carving. This house was rebuilt within the last twenty years.

There are remains of other town houses to be seen, viz. Joyce's mansion in Abbeygate Street, Stubber Castle in High Street; another house, called Whitehall, with a very fine doorway, existed until about twenty years ago, when it was taken down to make room for artisans' dwellings. The stones forming the doorway were removed, with the intention of preserving and re-erecting them on another site, and are now lying in a yard elsewhere.

Of the many other notable places in Galway the Franciscan Friary may be mentioned, which was founded in A.D. 1296 by Sir William de Burgh, who died in A.D. 1324, and was buried here. After much dilapidation in the sixteenth and seventeenth centuries, the present structure was rebuilt in 1738. It contains many tombs and monuments of much interest, and in the burial-place attached are the graves of many of the best families in co. Galway.

The Claddagh lay outside the walls of the Mediæval city. It was the Irish town, and there are still a large number of thatched houses placed in a most irregular fashion, which serve to give a pretty good idea of what the town was like originally. The community had until recent times their own "king" or mayor, who settled all disputes without the intervention of a legal court.

Galway is first noticed in A.D 1124, when a fort was erected there, which was afterwards three times demolished by the Munster men. In 1232 Richard de Burgo established himself in Galway and enlarged the castle there, which had been built by the O'Connors of Connaught. About this time it became an English colony; the principal settlers were afterwards called in Cromwell's time "The Tribes of Galway."

Charters were granted to Galway by Richard II. an

Charles II. In A.D. 1461 a patent was granted to enable money to be coined there. A flourishing trade with Spain was carried on for centuries, and the city had attained great prosperity. It was besieged in 1652 by Ludlow, to whom it surrendered; it was again besieged by the Williamite army in July, 1691. The town suffered greatly from both these sieges, especially the former. Later it fell into a state of decadence and never recovered its former prosperity, though within recent years it made considerable progress for a time. To the antiquary it is one of the most interesting towns in Ireland.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE concluding general meeting of the session was held on Monday evening last, Mr. W. Emerson, president, in the chair.

The hon. secretary announced the decease of the late J. A. Russell Inglis, who was elected an associate in 1894, and gained the Soane medallion in 1897.

The President stated that the appeal which was made at the annual meeting of the Architects' Benevolent Society for increased subscriptions had been successful; 1,189*l.* was received. Although the amount seemed large, the Society hoped that the announcement would not stop the flow of contributions. The demands upon the charity of the Society were large, and the pensions and grants which it was enabled to give were sometimes quite inadequate to the circumstances of the various cases.

Professor W. R. LETHABY read a paper entitled

Education in Building.

He said the current use of the word architecture was likely to be very ambiguous and betraying to the user; it meant anything and nothing, according to the verbal needs of the moment. Attempts were frequently made to give the word a definition, but it was essentially one of the class of words that had suffered by shifting its meaning and then decayed; it was almost one of the words which folk-lorists might treat of as a myth-making word. The word "architect" was very infrequently found in the Middle Ages, and then only as a loan word from the Latin, meaning "master" in building craft, master-mason, or master-carpenter. The words in use for architecture were carpentry, masonry, the art of masonry, mason-craft, but above all work. As each new effort was made at castle or cathedral, it became "the work." Wills for centuries bequeathed sums to the old or new work of St. Paul's, or the work of London Bridge. The great royal palace of Paris obtained its name L'Ouvre in this way. Everything was known in France and Germany of the manner of production of their Mediæval buildings. We here in England even knew that Reims and Amiens and the Ste Chapelle were the work of men who called themselves masons. We know the wages they received while they worked, and we can visit their tombs. But there was a curious reserve in England about the "architects" of our English cathedrals, and no general attempt has been made to make known the facts as to our Pisanos and Arnolfos, our Luzarches and Montereaus, and our Steinbachs. We went on repeating that it was unknown who built the wonders of Mediæval art, or that they were the work of monks, or of travelling freemasons, or of a cosmati guild, or they were designed by clerks like Elyas of Dereham, Edward of Westminster, or William of Wykeham.

The employer had, of course, a considerable say in the matter, and some abbots and barons doubtless very closely laid down the lines of their abbeys and castles. There seems every probability that Richard I. schemed Château Gaillard. In works of great importance, like a cathedral or a royal work, an agent might be appointed to represent the employer as keeper or co-keeper of the works; such was Wykeham at Windsor. When such a work or a cathedral was going forward a resident master mason or carpenter was employed as architect to do the work. Designing was merely contrivance, the doing of work in an ordinary way, just like cooking. The title abbey mason at Westminster continued till this century, when it was changed to clerk of works. It is quite possible that there was an unbroken succession of masons from the time when Henry III. began his work. These were the normal conditions; cases might be found where some mason recognised as a great master could not be attracted to a new work, but would advise by consultation and by means of rough patterns, while the resident mason would work under his advice and so on. It was often implied that there must have been some co-ordinating authority, or the carpenter would have put the roof upside down, but the reply to this was that the carpenter did not wish to put the roof upside down, and that the employer would have dismissed him if he had. Moreover, the chief master employed, like an officer to-day, had a general consulting leadership. That was how the old work was done; there was no art nonsense about when work was *the work.* Hence of course came the vital interest of old builded work: it was a true evolution, and as natural as a honeycomb or a bird's-nest. The thought was close to the act; design was no exercise, no application of a theory—it was just doing work "as it ought to be done according to the craft of masonry."

As the story was for Mediæval art, so very similar (evidence made known in several building accounts) were Greek building customs.

In considering the future and the present in the light of the past, Professor Lethaby asked what was there left to do? Shall we aim, he questioned, at reviving the forms of some yet untouched style—the styles of Mycenæ and of Mexico, for instance? Or shall we urge the return to some position which we might call safe and sure, such as copying the methods and mannerisms of Wren? A moment's consideration would show that they could do none of those things. They were past that now, and to attempt to turn back to a system of copying they needed faith in a revealed style like Palladio had:—"Verily," he said, "it is a discommendable thing that we, who have a true faith, should build in any other than the true antique way" They were "shut up" to turn to a study of the art of building, in the practical work of to-day, in scientific weighing and testing, in observing the stored experience of the past.

This study of buildings should go the whole way, or a first step, all was good. To give up all and carry the hod, that would be the part of the saint in architecture: for no style could ever be fine in the highest sense which is not alive and intelligent right down through. By spending more time at work and less in the office: this especially could be done even now, and profitably, in the middle period, when one was setting up in practice. They might learn much about building by mixing with and questioning the men, who still handed on amongst themselves ancient traditions.

These rough, tired men that sometimes irritated them, the "so-called British Workmen," were after all the true artists in building, the representatives of the Mediæval architects, and it was absolutely necessary that some relations and community of interests should be established with them once more.

Again, they must learn about building in schools—schools of practice and theory, experiment and research. Building schools existed in several continental cities, and such schools, as representing a very large and important industry in big towns, should be established or assisted out of public funds. In a big London institution all the building crafts should be carried on side by side, where experiments might be made in brick-arching, stone-cutting, timber-framing and so on, with due supply of apparatus and testing plant. Here also the mechanics of construction should be taught mechanically and demonstrated in models, and in such a school they might hope to bring together the different craftsmen, builders and architects, all studying together the true art of building and evolving a reasonable architecture.

The question of education in building to be solved must reach all classes of men engaged in building, and it must set itself to improve all the mass of building done in England. To claim public help they should get rid of visionary ideals and sectarian narrowness, and stand to gain with the common gain.

Mr. Paul Waterhouse proposed a vote of thanks for the paper, which was seconded and supported by Professor Beresford Pite, Mr. Leonard Stokes and Mr. T. Blashill.

EDINBURGH ARCHITECTURAL ASSOCIATION.

A LARGE party of the members of this Association left Edinburgh on Friday last for their annual excursion. A departure from the usual one-day excursion was made, and the programme of visits extended over two days, Durham being visited on Friday and Hexham on Saturday. At the former place the members had the privilege of being conducted over the cathedral and deanery by the Very Rev. Dean Kitchen. The library was also visited, where Canon Greenwell exhibited his splendid collection of sculptured stones. Afterwards the members visited the castle by kind permission of the Rev. Dr. Plummer, and were shown over the building by the Rev. Mr. Godwin. In the evening, after dinner, a number of the other old parish churches were inspected and the many charming and interesting views and walks about the city enjoyed. The company stayed overnight at the Royal County Hotel, and in the morning travelled to Hexham, where, by the courtesy of the Rev. E. Sidney Savage, M.A., the members were conducted over the abbey by Mr. Charles Clement Hodges, architect. In the afternoon the party drove to Chesters, and saw the Roman station and museum, under Mr. R. Blair's leadership, permission for which had been granted by Mrs. Clayton, of Chesters. Mrs. Clayton also allowed the party to view her private residence, the additions to which form a fine example of Mr. Norman Shaw's work. The train was joined at Chollerford, and the return journey made *viâ* Riccarton Junction and Hawick. The railway accommodation which Mr. David Deuchars had kindly provided for the whole circular journey was complete, and with the other arrangements added greatly to the enjoyment of the excursion.

NOTES AND COMMENTS.

Northampton prides itself on its advanced opinions, but it cannot be denied that the condition of the infirmary is not creditable to the borough or the county. The risks which await the patients are shown by the simple fact that last year in 300 operations there were 16 deaths. The building was lately visited by Sir H. C. Burdett, and he confirms the conclusions arrived at by the medical staff, that the state of the atmosphere of the wards militates against the successful treatment of the patients. The food is placed in cupboards which are near lavatories and sinks. The patients complain of the coldness which prevails. The lighting is inadequate and the water supply deficient. Hot water is not obtainable in the operating theatre. The condition of the infirmary can no longer be tolerated, and it is therefore proposed to expend about 15,000*l.* on works which are indispensable. That, however, is only a beginning, but as the realised capital exceeds 40,000*l.* there should be little difficulty in obtaining more money whenever it is required.

The old Romans were not satisfied with erecting immense thermæ in their cities which could serve for many purposes. The investigations into the arrangements of the camps have proved that baths were as necessary a part of them as if they aided in giving security to the place. The practice was introduced in as remote a region as Caledonia, no less than in Gaul and Germany. The explorations at the camp of Inchtuthill, on Sir A. M. Mackenzie's estate, have revealed the foundations of an immense bath, with concrete floor and walls, lead pipe connection, hypocaust, and stokehole, with flue extending from it. The foundations of the piers in the hypocaust are now displayed. The walls of the rooms are formed of stone and lime, covered with strong concrete with a polished surface, and frescoed with paint of a brick-red colour, which is still mostly intact. The stones used in the walls appear to have been taken from the neighbouring quarries of Gourdie and Kinclaven, and the lime would in all likelihood be got from the adjacent lime-kilns of Clunie, which are still in existence. The floors are all of concrete. It is remarkable, however, that the bath is not mentioned in any ancient description of the encampments, although we have allusions to the infirmary, farrier's shed, forge, record office, the place for taking auguries, &c., but the writers may have considered them so indispensable their existence would be accepted by every reader without any special description.

Imitation of English ways by Colonials is no doubt flattering, but it would be an advantage for many who are not lawyers if more expedition was allowed in law cases than is approved in our English Courts. For instance, an action taken against Mr. T. H. Smeaton, an architect of Adelaide, occupied no less than twenty days in hearing. The Chief Justice at the conclusion declared that the trial was unnecessarily long and that too many details had been entered into; but was it not permissible for the judge to have expressed that opinion at an earlier stage of the proceedings? The plaintiff claimed 1,000*l.* damages for negligence on the part of the defendant. The Chief Justice held there was negligence, as the defendant had advised the plaintiff to agree to the foundations being a foot shallower than originally specified without first ascertaining the nature of the ground, and for having, when the excavations disclosed a bed of limestone marl immediately underneath, proceeded to build on such an unsatisfactory foundation, at least without consulting plaintiff. The amount of damages awarded was 400*l.* with costs, and after twenty days the expenses on both sides are likely to exceed the sum originally claimed. A stay of proceedings was granted for a fortnight to allow the defendant to consider whether he would appeal to the Full Court.

It was in 1862 that Messrs. Spon published Sir G. L. Molesworth's "Pocket-book of Engineering Formulæ." The little book deserved its name, for it was not too large to be made a *vade mecum.* It was followed by others which were no less convenient. The latest addition to the series is "A Price Book for Architects and Engineers," by Mr. T. E. Coleman, F.S.I. It does not, however, resemble the ordinary price-books. The details which would correspond with a bill of quantities are not given, but rather the information which an architect or an engineer would require for general estimates. First is furnished the average cost of a variety of works, which are arranged in alphabetical order for reference, and then the actual cost of several buildings and different classes of work. We know of no other work which contains the same class of information and yields it so readily. In the introduction many useful hints are given which will be found advantageous to those engaged in preparing estimates. Mr. Coleman is careful to point out how the increase in price must operate on estimates, but the sums mentioned in the book can be accepted as representing the averages at the present time. Messrs. Spon have also brought out a smaller pocket-book giving weights of lead.

"The Village Church in the Olden Time" is the title of a little book by Mr. Harry Gill, published by Mr. Saxton, of Nottingham. The different parts of a church are described in the order they are met with, and they are exemplified by illustrations taken in a large measure from churches which are accessible from Nottingham. In that way the reader becomes acquainted with many buildings, although only a part of each may be utilised. When it is said that Mr. Gill believes that "prior to the Reformation everything about a church and everything about a church service had a symbolic meaning," including the plan, it will be understood in what spirit he treats his subject. The book deserves to be commended to students of architecture as well as of archæology.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: THE CHAPTER-HOUSE.

GROVE PARK WORKHOUSE, FOR THE GUARDIANS OF THE GREENWICH UNION.

We illustrate the new workhouse at Grove Park, Kent, which is now fast approaching completion, from the drawing which was shown at the recent Paris Exhibition upon its selection by the Local Government Board as an example of a modern British workhouse. It will be remembered that a group of typical buildings under the Local Government Board was sent to Paris by that Department, and the exhibit was recognised by the award of a Diploma of Merit. A view of the building was made public at the foundation-stone laying two years ago, but the present drawing is supplemented by plans of some of the chief departments, which add to its interest.

The architect is Mr. Thomas Dinwiddy, F.R.I.B.A., F.S.I. The site consists of 10 acres, which was purchased for about 400*l.* an acre. Accommodation is provided for 816 inmates, of both the aged and able-bodied classes. The buildings are all faced with Tunbridge Wells red bricks and roofed with Dinorwic slating; the glazed bricks are of Messrs. Ingham's Leeds District make. Ruabon red-tile paving is used extensively in the corridors, and the wood-block floors are being laid by Messrs. Geary, Walker & Co. The dormitories and dayrooms are heated with Messrs. T. Potter's patent stoves, and the ventilation has been carried out by Messrs C. Kite & Co. Mr. Rowbotham, of Birmingham, is the contractor, the contract sum being 175,020*l.*

There is a separate contract for well-sinking with engine and pumps, being carried out by Messrs. Tilley & Son at a cost of 3,275*l.*; and electric light is being installed at a contract cost of about 6,000*l.*, the contractors being Messrs. H. F. Joel & Co.

The contract is complete, including many fittings ordinarily classed as furniture, and, having regard to the extent of the institution, the works have been carried out so far with but slight extras.

ADMINISTRATIVE BLOCK OF NEW INFIRMARY, SHEFFIELD.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

By T. Francis Bumpus,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

A BRIEF REVIEW OF ECCLESIOLOGICAL PROGRESS, 1855 TO 1875.

(*Continued from page* 372.)

THE ordinary run of religionists and philosophers thought such a study as the revival of true ecclesiastical and architectural principles trifling, and might have done so rightly had it been pursued with no further object than the pleasure of the moment, but such was not the intention of its promoters. They looked at such things as part of the great subject of Christianity, working with material objects; and by enlarging the basis of inquiry, by restoring venerable usages lurking frequently in some forgotten corner—the recognition of which was essential to the well being if not to the life of the Church—they were enabled, by putting forth and inducing others to adopt such unprejudiced views, to slowly but surely bring their labours to a triumphant issue.

It is almost needless to say that this goodly reformation went, like every other reformation since the world began, too far, and the ball, once set rolling, went on so merrily that in a short space of time much mischief was done in the over-zealous desire to rid our ancient parish churches of every post-Reformation feature, with the result, as the late Dean Burgon most truly remarked, "that in by far the greater number of our lesser country churches there scarcely survives a single feature of interest."*

The Dean's picture is, it is to be feared, by no means an overdrawn one, yet surely no one but the most rabid member of the Anti-Restoration and Anti-Scrape Society, or of that which professes to entertain the most profound respect for every scrap of Georgian rubbish, would like to see such churches as Nottingham, Abingdon, Wantage, Ketton, and Great Yarmouth, or the chapter-house of Westminster Abbey, in the awful state of debasement and neglect they whilom presented.

Anent this *vexatia quæstio*, one cannot do better than quote the following extract from Sir Gilbert Scott's report on Oxford Cathedral, presented to the Dean and Chapter June 3, 1869:—"To the architectural and ecclesiastical antiquary every stage in the history of a sacred edifice has its value, and possesses an interest of its own, so that the obliteration of the work of any one period is like tearing out a leaf in the visible history of the structure. Where this historical interest ceases it is difficult to judge. One would hardly say that it applies to mere mutilations or ill judged alterations of late periods, though some of the works of such times may be worthy of respect.

"I have sometimes attempted to lay down a rule that all is to be respected which is antecedent to the extinction of our national architecture in the sixteenth century; and this, if not taken *exclusively*, may be in the main right. Yet one must admit that *some* works anterior to that great change may be questionable as to their claims for preservation, and certainly *some* works of later date possess such claims.

"It follows that if we adopt that rule in the main its application must be open to a certain amount of judicious eclecticism, while this should rigorously exclude mere individual fancies and preferences."

During the active twenty years of which we are now treating, a large number of our parochial churches were in the hands of the writer of the lines just quoted, comprising, among others, such structures of almost cathedral class as St. Mary's Beverley, the priory churches of Boxgrove and Bridlington, St. Michael and Holy Trinity, Coventry, and St. Cuthbert's, Darlington. Others were St. James's, Bury St. Edmunds; SS. Peter and Paul, Dorchester (Oxon); St. Wulfran, Grantham; Holy Trinity and St. Mary's, Hull; All Saints, Huntingdon; Ketton Church, near Stamford; St. Laurence, Ludlow; St. Mary Magdalene, Newark; St. Sepulchre's and St. Peter's, Northampton; St. Mary's, Nottingham; the parish churches of Nantwich, Oakham and Oundle, Pershore Abbey, SS. Mary and Nicholas, Spalding; St. George's Chapel, Windsor; St. Margaret's, Westminster; and the college chapels of New and All Souls, Oxford.

Butterfield had in hand at various times the two Sudbury churches of St. Peter and St. Gregory, St Cross, Winchester; Merton College Chapel, Oxford; Heytesbury Collegiate Church, near Salisbury; St. Editha, Tamworth; and Milton Ernest Church, Beds; while to Street had been confided—to mention but a few—the churches of Wantage, Shottesbrooke, Witney, Stone (near Dartford), Bloxham (near Banbury), Luton and Hatfield.

Slater had carried on Richard Carpenter's restoration of Sherborne Abbey to a successful issue, and had been entrusted not only with that of Etchingham, in Sussex, but of numerous Northamptonshire village churches, while, as has been already mentioned, the massive Norman choir of St. Bartholomew's, Smithfield, was beginning under his care to assume something of its former magnificence. St. Mary Redcliffe was being restored by Godwin, St. Nicholas, Great Yarmouth, by Seddon, Waltham Abbey by Burges, Wolverhampton Collegiate Church by Christian, St. Martin's, Leicester, by Brandon, Christchurch Priory and Romsey Abbey by Ferrey, St. John's, Chester, by Hussey, and St. Helen's, Abingdon, and St. Nicholas, Newbury, by Woodyer; while St. Aubyn had completed the works in "The Round" of the Temple Church, and had perfected its cone-shaped spire.

Turning to the auxiliary arts, we may proceed to notice a few of the more interesting and important works in sculpture, painting and metal-work produced for ecclesiastical purposes during this active period of the Gothic movement.

From 1820 to 1850 the reredos was almost invariably a mere congeries of niches for the reception, in highly emblazoned characters, of the Decalogue, the Creed and the Lord's Prayer, the tenth commandment, in order to fill up the tablets, being not infrequently split up into several heads—"Nor his servant," "Nor his ox," "Nor his ass," standing out most prominently with gorgeously rubricated "Ns."

The altarpieces destined for the reception of these inscriptions in certain of the churches built by the Parliamentary Commissioners between 1820 and 1830 were highly elaborate, and in a few instances by no means contemptible for their date. One may be still seen in St. Paul's, Ball's Pond, one of three built nearly seventy-five years ago in the parish of Islington from the designs of Sir Charles Barry for Rev. Daniel Wilson, who afterwards became Bishop of Calcutta. Another is in St. Luke's, Chelsea, so remarkable at the time of its completion in 1824 for the stone-vaulted roof of its nave, and for the grandiosity which, in spite of much poor detail, characterises its interior. Another reredos, excellent for its date and consisting merely of some well-intentioned Early English arcading, may be seen in Holy Trinity Church, Tottenham, finished in 1830 from the designs of the same architect as St. Luke's—James Savage.

The reredoses in the Temple Church—where, by the way, the arrangements of the sanctuary, or what passes for such, are absolutely disgraceful—in St. Giles's, Camberwell, in St. James's, Lower Clapton, and in other churches built during the first ten years of the revival of the true principles of ecclesiastical architecture (1845-55), indicate a striving after better things, hampered by timidity or Protestant prejudice, while of too many of the costly and well-intentioned reredoses set up in English churches since the more frequent use of the sculptured form divine, it can only be said that a piece of tapestry that has been superintended by the eye of an architect would have had a far more striking and satisfactory effect at a tithe of the cost.

Between 1855 and 1867 three very large and important works were executed by Mr. James Forsyth for Mr. William Slater—the reredoses in Sherborne Abbey Church (1858), St. John's College Chapel, Hurstpierpoint (1866), and Chichester Cathedral (1867), the cartoons for each having been prepared in the studios of Mr. J. R. Clayton, of the well-known firm of Clayton & Bell.

Of Mr. Forsyth's other works in hand about this period may be mentioned the font in Lichfield Cathedral and that in the Episcopal church of Dunkeld, both from Mr. Slater's designs; the decorative carving in S. S. Teulon's church of St Andrew, Blackfriars—a graceful Middle Pointed building conspicuous from the Thames Embankment by its German-looking spire; the medallions representing the Parables and Miracles in the spandrels of the nave arcade, the Way of the Cross and other sculpture in the churchyard of St. John Baptist's, Frome Selwood, for Mr. C. E. Giles; and all the carving in St. Matthew's, Upper Clapton, from the designs of the late Mr. Francis Dollman.

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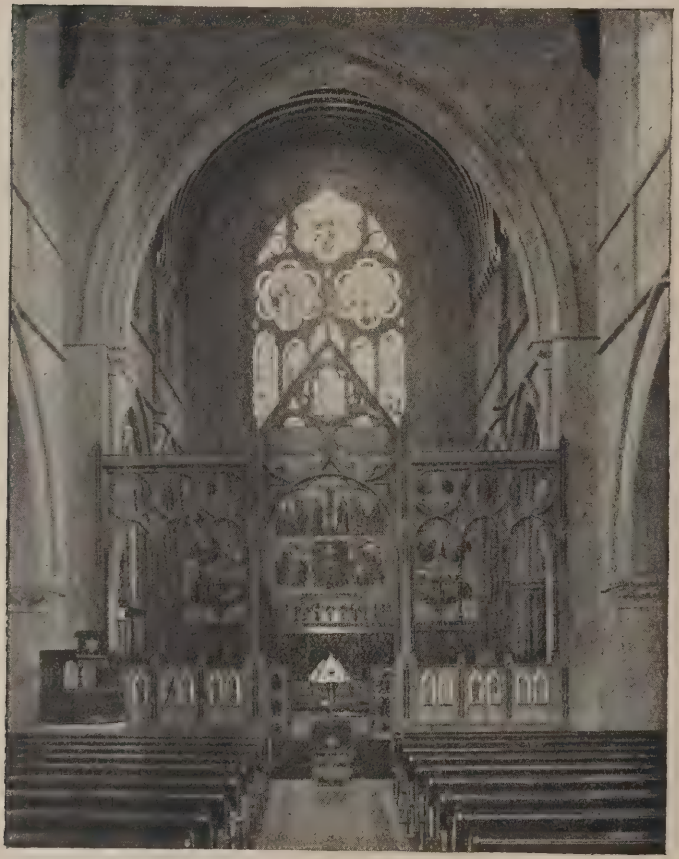
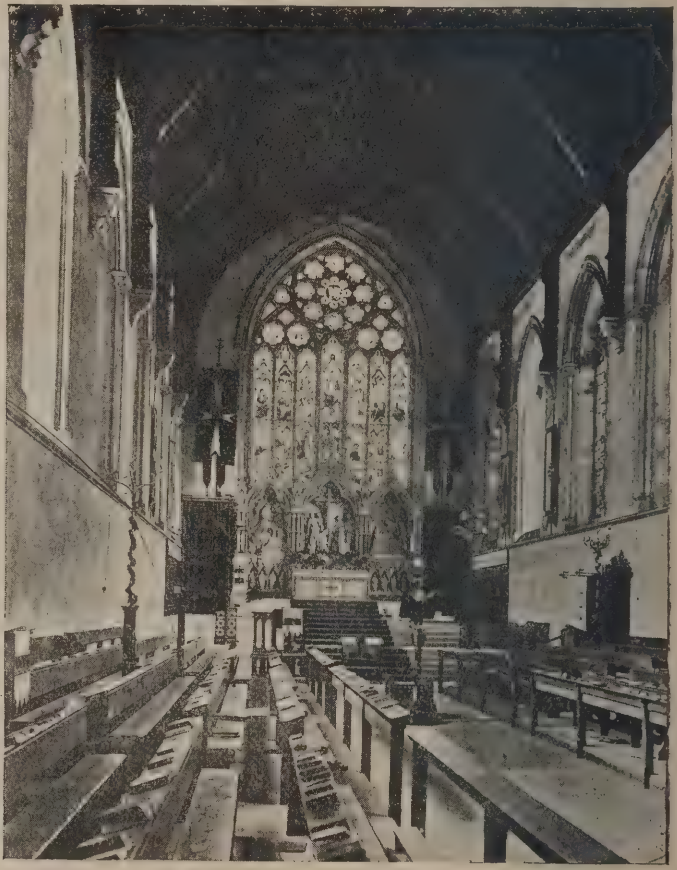
* See his Introduction to *Personal and Professional Recollections by the late Sir George Gilbert Scott.*" Edited by his son, G. Gilbert Scott, F.S.A. (Sampson Low. 1879.)



Church of the Annunciation, Chislehurst.
(Reredos by Earp, with Paintings by Westlake.)



St. John's College Chapel, Hurstpierpoint.
(Reredos by Forsyth, from Designs by Slater.

In the reredoses at Ely and Lichfield Cathedrals, and in that of St. George's Chapel, Windsor, Sir Gilbert Scott's ideas were interpreted by Birnie Philip, to whom he likewise entrusted the decorative carving in the church built by the munificence of Mr. Akroyd, M.P.—All Souls, Haley Hill, Halifax. The reredos in Ely Cathedral—one of the most graceful conceptions of Sir Gilbert Scott, who had been entrusted by Dean Peacock with the restoration of that great fenland church—was completed at the same time as the stained glass in the double tier of eastern lancet windows.

Finished in 1856, it may be cited as one of the earliest works of the kind in which sculptured imagery was fearlessly introduced. Some years before, however—probably in connection with the alterations carried out in the choir under Salvin—a plaster representation of the Last Supper, after Leonardo da Vinci's celebrated fresco, had been placed above the altar in Durham Cathedral to fill up the elongated space between the Holy Table and the spiral Neville shrine which so grandly breaks the view eastwards. This space was anciently covered with tapestry, and when during the restorations carried out in the cathedral between 1874 and 1876 this plaster cœnacolo was taken away, needlework was put in its place again.

Mr. Birnie Philip was also entrusted by Scott with the sculpture in his new chapel for Exeter College, Oxford, upon which he was engaged between 1857 and 1858. Here the shafts from which the groining ribs spring are supported on richly sculptured corbels, whose execution, if exhibiting a little too much accentuation in certain places, possesses a delicacy and refinement hitherto unattained by the modern sculptor.

At St. Mary's, Stoke Newington, one of the largest and most magnificent churches erected in the neighbourhood of London *—contemporary with, and in some respects analogous to, the building just quoted—Scott put the whole of the sculpture into the hands of Messrs. Farmer & Brindley, with the exception of the four angels in white marble grouped around the font, which are from the chisel of the younger Westmacott. The foliaging of the capitals of the tall circular columns in the nave and of the great clustered shafts at its junction with the transept is of great beauty. Exhibiting as it does almost every known variety of plant it merits attention, as do the half-figures of angels and apostles terminating the dripstones of the windows in the apse, and those of the nave arches.

The whole of the constructional carved ornament inside St. Mary's, Stoke Newington, was finished at its consecration in 1858, that of the reredos and pulpit—both graceful conceptions, exhibiting considerable originality—about seven years later. The former, representing the Institution of the Eucharist, seen behind the three central trefoilheaded arcades, has of late years been much improved in appearance by being raised, and by the construction in front of it of a retable for the ornaments. Until 1872 the work on the exterior of this fine church was entirely in the block, but in that year a commencement of carving was made with that of the north porch, where the introduction of holly into the capitals of the slender attached shafts was exceedingly felicitous.

Nothing further was done towards the structural ornamentation of Stoke Newington Church's exterior until 1888, when, in conjunction with the completion of the tower and spire, the huge unfashioned lumps of stone forming the capitals to the columns of the west door and the niches of the tower buttresses were transformed into clusters of conventional foliage, while an immense block between the apex of the door-head and its surmounting gable was sculptured into a seated figure of Our Lord, the spandrels receiving a graceful diaper.

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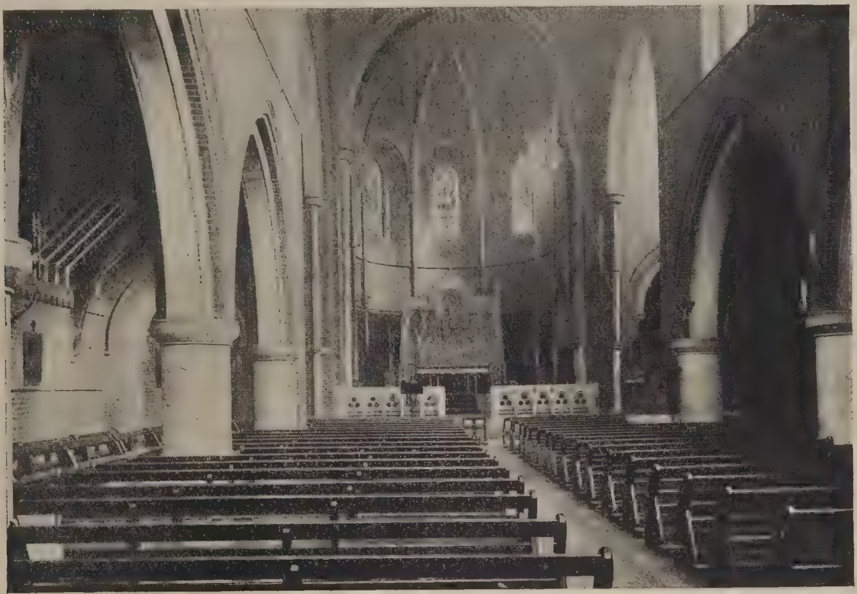
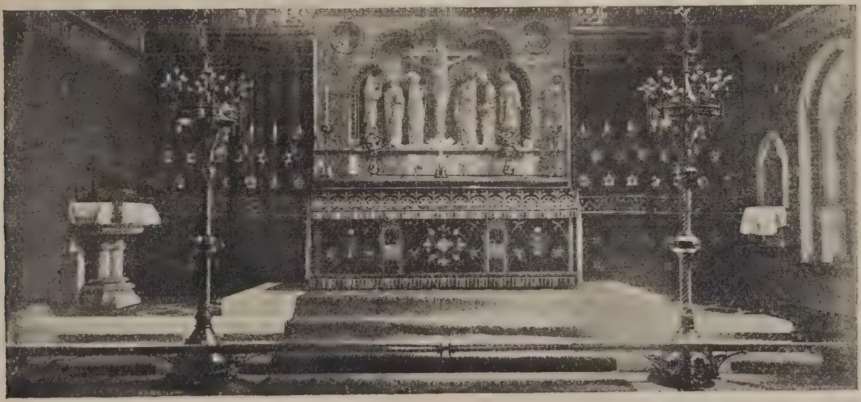
* Described and illustrated in *The Architect* of February 23, 1900.

The reredos in Worcester Cathedral—already alluded to somewhat fully in these papers—and the carved ornament enriching St. John the Baptist, Croydon, and St. Mary Abbot's, Kensington, are among the more important works executed by Messrs. Farmer & Brindley between 1868 and 1872.



St. Chad's, Haggerston. (*Reredos by Earp, from Designs by James Brooks.*)

Several very beautiful reredoses on a motif furnished by Street, and consisting of a sculptured group of the Crucifixion within a depressed arch trefoliated, were produced during the period of which we are now treating, from the chisel of Earp. The typal one of the series is in St. John's, Torquay, where it was placed on the completion of that church's chancel in 1864, not, however, without occasioning an outbreak of Puritanical ill-feeling. A second, illustrated in the present paper, is in Dollman's church of All Saints, Lower Clapton, and another may be seen, recently coloured, in Sir Robert Smirke's Grecian Doric parish church of West Hackney, where, incongruously enough, though with the best and most pious intentions, it was erected during Rev. Thos. Hugo's tenure of that benefice. The great beauty of these altarpieces resides in their simplicity and freedom from that elaboration and fussiness too common in such works a quarter of a century ago. Another form of reredos, also carved by Earp, but in this instance from the designs of Mr. James Brooks, may be seen in several of the churches built in or near London by that architect, as, for instance, St. Michael's, Shoreditch; St. Chad's, Haggerston, and St. Andrew's, Plaistow, and consisting of three, sometimes five-gabled arcades of that peculiarly-stilted form for which Mr. Brooks entertains a predilection, filled with a sculptured group of the Crucifixion in the central, and single effigies in the side compartments. One of the earliest of these reredoses, that in St. Michael's, Shoreditch, is of Caen stone in three panels, that in the centre containing the Crucifixion, and the one on either side St. Mary and St. John, all with backgrounds of gilded glass mosaic. The chancel of St. Michael's being of great width, and the reredos occupying only that portion o the east wall immediately above the altar, its present aspect is somewhat isolated; side curtains or hangings for the flanking wallspaces would do much to remedy this. It will doubtless be remembered that the original sketch in charcoal for this reredos, and which was in position on the day St. Michael's was consecrated—the festival of St. Bartholomew, August 24, 1865—formed the subject of a painful and most regrettable incident, Dr. Tait, then Bishop of London, who on the same occasion had come into collision with the assembled clergy on the subject of their wearing white stoles, actually refusing to proceed with the ceremony until the vicar and architect, having very firmly but respectfully refused to efface it there and then, had signed an agreement to remove the cartoon in the event of Sir Travers Twiss deciding its subject to be illegal. The day following the consecration of St. Michael's Mr. Robert Brett—not only one of the most untiring promoters of church building and extension in North London, but through whose exertions



The Reredos, All Saints, Lower Clapton. (*Earp, Sculptor.*)

this, the first of a most remarkable series of churches, became in a great measure possible—waited with the drawings of the reredos on Sir Travers Twiss, who after a careful examination decided there was nothing illegal in the design, and the work —erected as a joint memorial by Rev. T. Simpson Evans, vicar of Shoreditch, and Mr. Brett to a daughter each had lost during the building of the church—was proceeded with. Another type of reredos affected by Mr. Brooks is that in which a number of small panels are pierced in a mass of alabaster and filled with paintings. The lofty retabulum in the Church of the Annunciation at Chislehurst, where the iconography is due to the talented brush of Mr. N. H. J. Westlake, may be selected as one of the largest and most imposing specimens of this class of work, while another, less grandiose in ensemble owing to the space between the altar and the cill of the east window being restricted in depth, is in St. Margaret's, Lee, a church built in the Early English style of 1841, but whose interior, under the skilled direction of Mr. Brooks, has become one of the most beautiful in the south-eastern suburbs ot London. Both these reredoses were, as regards their sculpture, executed by Earp, among whose numerous works the altar-pieces in All Saints, Clifton,* and the cognomenous churches in Kensington Park and Aden Grove, Stoke Newington, deserve especial mention, all designed on one model, and from their great height admirably adapted to the subject represented—Our Lord enthroned receiving the adoration of His saints. Nor must such graceful works be forgotten as the Stations of the Cross in All Saints, Boyne Hill; the reredos in St. Mary Magdalene's, Paddington; the carved spandrels and niched statues in the nave of the same church; the pier caps in St. Paul's, Herne Hill, St. John Divine, Kennington, and Bristol Cathedral, all for Mr. Street; and the reredos in St. Asaph's Cathedral for Sir Gilbert Scott.

ARCHITECTURAL BRICKWORK IN AMERICA.

IN the *Architectural Review*, Boston (U.S.), is an important article on "Architectural Brickwork, from the Standpoint of a Constructing Engineer," by Mr. John Stephen Sewell, from which we take the following extracts:—

It has been the author's good fortune to have charge of considerable building work for the United States Government, part of which was done by contract and part by hired labour; much of it has more or less claim to architectural merit, having been designed by architects of established reputation. In selecting materials and supervising the work of contractors, he has, therefore, exercised some of the functions ordinarily pertaining to the architect; in executing work by hired labour, he may be fairly said to have looked at the matter also from the contractor's point of view, at least to this extent, that he has always had a limited amount of money available for the work, and has been compelled to carry it on with the utmost economy, to avoid exceeding the limit of cost. His attitude towards the work has differed from that of a contractor, however, in that he could concentrate his efforts upon the one object of securing the best possible work for the money available, regardless of the question of profits—a question which undoubtedly obscures the judgment of many contractors who are quick enough to recognise the advantages of good work when not required to do it themselves.

This experience of the writer has resulted in the formation of rather decided opinions on many points involved in the design and execution of architectural brickwork—by which is meant only that which is designed with a view to artistic effect, as well as utility. These opinions apply especially to public buildings, which are expected to be permanent; but if they are sound there is no reason why they should not apply to the more important and expensive types of private buildings as well.

The first question that presents itself in this connection is whether brick is a suitable material for buildings which are more or less monumental. When the preliminary plans of the new building for the Government Printing Office in Washington, D.C., were under discussion, the writer, who had charge of the work as constructing engineer, as well as designing engineer for all details affecting its stability and fire-resisting qualities, found quite a public sentiment to the effect that stone was the only material suitable for so large and important a building.

It cannot be doubted that a thoroughly burned brick is both strong and durable; in fact, it is probably better able to resist gradual destruction by the action of frost continued through many seasons than most of the best building stones; it is simple enough in its nature, and, in these days at least, it can be obtained in such a variety of colour and shade that it has surely earned a title to the quality of beauty. Its cost is reasonable and there is no difficulty in moulding it to any shape we please, so if we are looking among the qualities enumerated for the foundation of a just prejudice against the use of bricks in large buildings, we shall find it nowhere unless in the last, and there it is.

Face bricks can now be obtained in almost every conceivable colour and shade; it is possible that the near future will see even a greater variety, following the introduction of improved processes whereby the colour of bricks will be as completely under the control of the manufacturer as is that of ornamental terra-cotta at the present time, if not more so. At least one brickmaker has so nearly perfected a process for applying a slip of any colour to a fireclay body that it seems probable that this process, so often a failure, may yet result in a successful brick.

When a brick is selected for its colour, it is desirable, of course, that it should retain this colour in the work—either unchanged, or else only softened by age and exposure. Too little attention is paid to this point, especially with bricks of the lighter shades. The writer is inclined to think that if architects would make a practice of inspecting their own work occasionally for eight or ten years we would not see so many fronts executed in bricks which hold their colour hardly long enough to disclose the architect's real intentions.

Dark-coloured bricks can in general stand some stains without detracting much from the appearance of the work, but light bricks which have turned green or greenish yellow and then a dirty grey, or which are so porous that dust and soot literally wash into them at every rain, soon present an appearance of faded finery which is far from pleasing, regardless of any excellence in the design and original colour scheme.

With the exception of long time tests, the best guide to the selection of a bright-coloured brick which will not change seems to be the degree to which the brick is burned. If in order to get the colour desired the brickmaker has to burn off his kiln while the bricks are still far short of vitrification, it is almost certain that they will become discoloured in the work. The more nearly vitrified the brick the more permanent is its colour likely to be. Fire-flashed bricks of all shades seem to be quite permanent, which is probably due to the fact that the face in this case is practically vitrified. However, even vitrification may not always be a sure preventive of discolouration; though the writer has never seen a vitrified brick change colour himself, he is informed that such cases are on record and well authenticated. On the other hand, many bricks which are not vitrified are very permanent in their colouring.

The only safe rule is to use no brick for a large and important building which has not demonstrated its permanence by long time tests; let the new bricks as they come on the market be tried first in small buildings, and thus compelled to demonstrate their merits at the least cost to the consumer.

When it comes to durability there can be no doubt of the value of vitrification. If a brick is perfectly impervious, not only will dust and soot wash off instead of into it, but frost can have no effect on it, and the chemical agencies of the atmosphere can destroy it only by infinitesimal degrees, if at all. It is probable that there is considerable merit in some of the methods for rendering brickwork impervious by depositing an insoluble substance in the pores after the wall is completed. Where this does not change the colour it is worthy of trial, if impervious bricks of the right shade are not obtainable.

Many of the softer building stones stain bricks very badly when used for sills, lintels and trimmings; where this cannot be cured by cutting drips on the stones, such stone should not be used except with impervious bricks. If the desired architectural effect cannot be obtained by the use of materials which will make it permanent, some other effect should be sought.

Building contractors who have had but little experience with impervious bricks are very apt to protest against their use; they claim that such bricks are difficult and expensive to lay, and that they will not stay in the wall. They also argue that mortar will adhere to them so feebly, that a wall built with impervious bricks is seriously lacking in strength. None of these objections has any foundation in fact; it requires more care and attention to lay impervious bricks until the masons become accustomed to them. After that, the writer's experience indicates that they will do a larger day's work with impervious bricks than with porous bricks; moreover, they can be laid with smaller joints, and still have all joints filled with mortar. This is probably due to the fact that the impervious brick does not absorb the water from the mortar, and therefore does not deprive it of its plasticity as soon as the brick touches it. Consequently, the mason is able to shove or settle the brick more quickly into its final position, and he is also able to grind the joint down to a minimum thickness; after acquiring a certain knack he has no difficulty in keeping impervious bricks in the wall.

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* This, the typal one of the three, was illustrated in the number of this series of papers which appeared in *The Architect*, December 7, 1900.

It must be admitted, however, that to lay these bricks when they are wet or frosty is almost hopeless; they are distinctly good weather bricks so far as laying is concerned.

So far as the adhesion of mortar to bricks is concerned, it is quite certain that porosity alone does not determine it. Many persons believe that mortar will not adhere to a brick that has not a certain amount of absorption, but the writer is inclined to believe that adhesion depends almost entirely upon the nature of the subject to which the mortar is applied, whether it is in a porous condition or not. Portland cement adheres strongly to steel and iron, which are not usually classed as porous; it adheres very feebly to any kind of wood, whether porous or not. The following experience is still more to the point:—The writer had occasion to build a small brick pier, containing common bricks and two kinds of enamelled bricks. One kind of enamelled bricks absorbed from 3 per cent. to 5 per cent. of water, the other enamelled brick from 12 per cent. to 15 per cent., and the common brick from 7 per cent. to 10 per cent. The pier was one brick square and about 2 feet high, it was carefully laid up with Portland cement mortar, one part cement to three parts sand. When it was about six weeks old it could be picked up by the top course, and it stood a good deal of handling of various kinds without showing any weakness in the joints.

It was finally broken apart by being dropped on its side; it parted generally at the joints. The mortar invariably adhered strongly to the enamelled brick of least absorption in preference to all others; it adhered to the common brick in preference to the enamelled brick of high absorption. It came off clean from the latter brick, leaving its surface intact; from the common bricks it came off, sometimes clean and sometimes bringing small bits of the brick with it; from the enamelled brick of low absorption it had to be forced off and invariably brought parts of the brick with it.

The writer also had occasion to test the adhesion of Portland cement mortar to a thoroughly vitrified face brick about the same time, and found it about the same as the common brick used in the pier. He has since had occasion to cut out a small amount of work laid up with these same vitrified bricks in Portland cement, and in many cases the brick yielded instead of the joint.

Anyone who has ever seen a thoroughly grouted vitrified block pavement taken up after it had stood for awhile, knows that the mortar often adheres to the block with great tenacity. Experiments along this line would be quite interesting; they would probably show that, with surfaces entirely free from dust, the adhesion of mortar is determined solely by the nature of the substance to which it is applied, and is not increased by porosity, unless the pores are so large as to afford an appreciable key, in which case there is more than simple adhesion. For much porosity—or too much absorption, to speak more accurately—is a positive evil, as it deprives the cement of the water required to attain its strength.

Whether the writer's theory on this subject is correct or not, he knows there is no danger in the use of impervious bricks, due to lack of adhesion between them and the mortar; and they will almost certainly be less subject to change than porous bricks, especially in the lighter shades.

The joints being, as a rule, the weakest part of any masonry structure, should receive special attention in both design and execution. Considering the mortar first, there can be but little doubt that Portland cement should be used exclusively for all important work. A hard and durable mortar is even more essential for brick masonry than for stone. A well built wall, laid up dry, has considerable permanence and stability, whereas the mortar is absolutely essential to the stability of a brick wall. Lime mortar, in America at least, is almost sure to yield in time to frost and other destructive natural agencies; natural cement is uncertain in this respect; sometimes it lasts well—sometimes not so well as lime. Portland cement mortar, on the other hand, if well made and properly used, is stronger and will outlast all others. Indeed, there is every reason to believe that it may often be as durable as the bricks themselves. It is rarely necessary to use it in richer mixtures than one part of cement to three parts of sand if the sand is clean and sharp. Such mortar will become in time fully as hard as most bricks.

In architectural work the colour of the mortar is important. With Portland cement practically every colour can be obtained except pure white, but with white sand a very light grey can be obtained, which certainly seems just as suitable as white, in all cases where white is used. The whitest mortars will become grey in time from dust and exposure; why not make them grey at once if thereby a more durable structure can be obtained? It seems to the writer that the effect of age and exposure is not always properly considered in selecting the colour of both bricks and mortar for architectural effects; time should lend softness and dignity instead of changing the colour scheme entirely and defeating its purpose by hideous stains and crumbling joints.

As for the joints proper, the most important point is that they be filled completely with mortar of the maximum possible density. This is largely a matter of execution, but the design should not be such as to make it unnecessarily difficult. This means that the joints should be fixed at a reasonable thickness. No joint should ever be thinner than a quarter of an inch, and three-eighths is better for average work. If joints much thinner than this are required, the bricklayer will "butter" the edges of the brick with a small quantity of mortar, thus filling only the exposed edges of the joints, while the remainder is filled with air. The actual mortar bed is often not more than half an inch in width. It is often due to this vicious practice, and not at all to settlement of foundations, that cracks appear in pressed brick fronts with very thin joints; there is not enough mortar to hold the bricks in place. It would be an easy matter to secure any number of illustrations of cracks due to this cause among the better and more expensive class of dwellings; but such buildings are often built in a very haphazard way.

The Pension Office, Washington, was constructed by a very skilful engineer, but even he could not secure it against the evil results of excessively thin joints. He followed the prevailing practice of laying pressed bricks, but the standard aimed at was a false one, and the work already shows it. A careful examination will show that the arch over the window has settled by sliding on joints near the skewbacks, and the brickwork above is cracked. There was not enough mortar in the joints to make the arch self-supporting, so the inevitable small shrinkage in the window frame has caused cracks in the brickwork, which is really supported by the frame and not by the arch. This window is only one of many similar ones in the same building, all showing the same defects.

While avoiding the one extreme of very thin joints, we should not go to the opposite extreme and make them too heavy, owing to the difficulty of giving the exposed edge of a heavy joint a hard dense surface at a reasonable expense. Without such a surface its ultimate deterioration is certain.

Until recently there was small need to raise a warning cry against heavy joints in front work; but within a few years many beautiful pieces of brickwork, especially those laid in Flemish bond with black headers, have been executed in New York, Boston and other places, with such heavy joints that they will surely need extensive repointing before their designers are dead; the worst of it is that many of them are laid in lime mortar and the joints are not carefully struck at that.

For bricks of the most accurate shape and uniform size the joints should never be less than a full quarter of an inch. For the roughest and most irregular face bricks the joints need never exceed from one-half to five-eighths of an inch. Between these limits all exposed joints in fine brickwork should lie.

So far as artistic effect is concerned, there is no necessity for making the joints either extremely thin or extremely thick. If the joints are to be made conspicuous by colour contrasts, making them very thin not only adds to the expense and lessens the stability, owing to the difficulty of filling them, but defeats the artistic purpose as well; they cannot be very conspicuous at any time, and after a few years' exposure they become practically obliterated by the dust which washes over them from the face of the bricks. Nothing is more unattractive than a pressed brick front in this condition; it usually ends with a coat of paint—a melancholy fate for a piece of handsome masonry.

On the other hand, if the design requires the joints to be inconspicuous, it is easy, by colouring the mortar, to accomplish this as well with a reasonably thick joint as with a very thin one. In no case, however, need the joints exceed the thickness given as the limit. A joint half an inch thick, if properly contrasted in colour with the bricks, will be plainly visible at any distance at which a pattern designed in blocks as small as bricks would be noticed.

One advantage of heavy joints, not yet mentioned, is the fact that when the bricks are very smooth, the joints, if heavy enough, save the wall from looking so smooth, and thus lend a life to the surface which would otherwise be absent.

The method of striking the joint is of the highest importance. This should be such as to produce results as nearly as possible like those due to careful pointing in stone masonry. The exposed edge should present a hard, dense, non-absorbent surface, and be so shaped as to shed water readily, instead of retaining it in any quantity, however minute. After trying all the methods in common use, the writer has finally adopted for exposed joints that of striking with a rounded tool, so as to leave the finished surface slightly concave to the weather. This is done under sufficient pressure to consolidate the mortar in the edge of the joint (which is always less dense than that in the middle of the joint, unless it is consolidated), and squeeze out all surplus between the tool and the edges of the bricks. If the work is to be especially neat, a straight edge is used to guide the tool.

All methods of striking or finishing the joints which leave a projecting edge are bad. They retain the water which is absorbed, the frost throws off the edge of the joint, leaving a raw and porous surface exposed to further attacks.

In order to fill all joints with mortar of the maximum density, the mortar should be spread considerably thicker than the joint and the brick then shoved vigorously into place, squeezing up enough mortar to fill the vertical joints. The mason is very apt either to butter the edges of the bricks or else to spread a rather scant quantity of mortar, plough it into ridges and furrows with his trowel, and then settle the brick very gently into place on top of the ridges. Neither method secures a full bed, though the latter is better than the former.

For interior work the best method of finishing the joints is to strike them flush with a trowel under as strong pressure as possible; the exposed surface in this case is not quite so dense as when struck with a rounded tool, but it is sufficiently so and it does not gather dust.

This is a feature that has been more abused and neglected by both architects and builders than any other in the whole subject of brickwork. No system of metal wall ties, or similar device, which leaves a continuous vertical joint in the wall, rarely filled with mortar, can take the place or do the work of the genuine old-fashioned system of headers.

Two walls built against each other are but two walls of a given thickness; if thoroughly bonded by means of headers, they become one wall, of greater thickness, with a vast increase in both stability and durability, over that possessed by the two walls, even when acting together.

The writer is not disposed to claim, as some engineers do, that lines of strength are always of necessity lines of beauty, for many structures which are abundantly strong are hopelessly ugly; but he does venture the assertion that no structure which has a manifest structural weakness can be truly artistic. So he claims that the use of a veneer of front bricks, without bond, on the exterior of a building is a mistake, even from an artistic point of view. Effects which are spoiled by the use of headers should not be sought. While he has not seen it yet, the writer expects one day to see some such veneered fronts cracked for lack of mortar in the joints, exposed to the proper combination of a driving rain, turning into snow and sleet, followed by a hard freeze, in which case the wall will soon be minus its veneer. The same result may ultimately follow long-continued vibration due to machinery; in fact, there are many ways in which such work can come to grief for lack of headers, and by the time the first examples of it are a little older, some of these ways will become evident to everybody.

In seeking the origin of the present vicious practice of laying all face bricks as stretchers we find several causes, all of which have contributed to the result. (1) Face bricks and common bricks are rarely of the same size, the common bricks being usually the thicker. The builder claims in this case that he cannot work out a regular bond, and so far as Flemish bond is concerned he is correct, but beyond this he is not correct. (2) Face bricks are more or less expensive, and the use of headers adds from one-tenth to one-third to the number required, the latter being the addition required for Flemish bond. (3) Some architects and owners prefer to have no headers, on the ground that it spoils the appearance of the work. As far as this last reason is concerned, the writer would merely remark that any effect depending for its consummation upon violating the basic principles of good construction ought to be spoiled, and the more quickly it is done the better.

The conclusions in this paper may be summarised in the following rules, which the writer's observation and experience indicate as applicable to architectural brickwork, especially on a large scale.

No design should be adopted which cannot be executed in available materials of established durability; this applies to colour as well as physical state. The more nearly impervious the bricks the better the work. Joints should not be too thin, because of the difficulty of filling them; and they should not be too thick, because of the difficulty of finishing them in a durable manner at reasonable expense. Geometrical patterns depending upon fine line work in the joints are not permanent, due to obliteration of the joints, and are too trivial for a large front. If geometrical patterns are wanted they should be based on moulded bricks or else on the colour of the bricks themselves. No cementing material except Portland cement should be used for important work. The bond should, above all things, be not neglected. Ornamental features should be concentrated in arches, cornices, capitals and bases, all of which are expensive to build, even when plain; the addition of moulded brick patterns does not add a large percentage to their cost, whereas if too much diffused they add enormously to the cost of all the other work. Finally it should be remembered that so far as stability and permanence are concerned, execution is of more importance than design; for careful and conscientious execution may save a defective design, but no excellence in design can counteract the evils of poor workmanship.

THE PALACE OF KNOSSOS.

IN a letter to the *Times* from Candia, dated the 12th inst. Mr. Arthur Evans writes:—The concluding excavations of this season in the prehistoric Palace of Knossos have produced discoveries which throw an entirely new light on the architecture of Homeric Greece. East of the great central court I have now brought to light a suite of princely chambers, with walls descending in places 20 feet and including the remains of upper storeys. A portico to the east opens on a fore-hall with eleven doorways, and giving access to the principal hall. A side passage leads from this to a second hall, which shows on two sides the remains of a double tier of colonnades, within which a triple staircase leads to the upper galleries. In this hall was a large deposit of tablets with prehistoric inscriptions, one larger than any yet discovered, and apparently containing lists of officials. In the neighbouring chamber were fallen fragments of human figures of coloured plaster in high relief and of most magnificent execution, the rendering of veins and muscles showing a naturalistic skill never again rivalled till the Italian Renaissance. In the adjoining gallery were remains of bull-hunting scenes, in which girls attired like Mycenæan cow-boys also take part.

ARCHITECTS' FEES IN GERMANY.

A NEW schedule of fees has been lately adopted by the Association of German Architectural and Engineering Societies, of which the following translation is given in the *Engineering Record*:—

Section 1. *Principles for Determining Fees.*—The fees will be computed in general on the cost of construction, and be divided between preliminary studies (Vorarbeiten) and the developed scheme (Ausführungsarbeiten). For the first, the estimated cost, or in case no estimate is made, an approximate appraisal, will be the basis; for the latter, the sum expended in construction.

Preliminary studies are:—(*a*) The preliminary design in sketches with an approximate appraisal of the cost and an explanatory report if desired; (*b*) the design in such detail that the estimated cost can be made; (*c*) the estimate of cost; (*d*) the preliminary papers, comprising the necessary drawings and documents to be submitted for official approval.

The developed scheme embraces:—(*e*) The working drawings for actual construction; (*f*) the supervision, that is to say, the preparation of proposal advertisements and specifications, consultations with bidders before closing the contracts, the fixing of the dates for the beginning and end of construction, overseeing the work, the correspondence concerning construction with officials and third parties, the tests and the final estimates of cost.

The total cost of construction includes all sums expended for the work except the cost of the land, superintendence and fees to architects and engineers. In case the owner furnishes material and labour, their value is to calculate by the prices ruling in the locality and included in the sum on which the fees are based.

The payment of the fee entitles the client to but one structure executed according to the plans; their use for further structures is subject to additional fees.

In case a commission embraces several structures of the same design, the fees, provided these structures are executed simultaneously, are to be computed on the total cost as respects the charges for preliminary studies and supervision and on the services rendered as respects the remaining work. If a commission embraces a number of similar structures from different designs, each structure must be considered independently.

In case a commission includes works belonging to different groups or classes, the fee for each is to be reckoned independently.

In case additional preliminary studies are made at the request or with the consent of the client, there is to be a proportional increase in the fee.

In case the commission consists solely of the preliminary sketches, the fee is to be increased one-half.

In case several preliminary sketches, agreeing with different programmes for construction are desired, each is to be considered independently. In case several preliminary sketches for the same site and programme are desired by the client, the full fee is estimated for the first and the compensation for the others is based on the additional work they require.

For the design the partial amounts for (*a*) and (*b*) are to be computed, even if preliminary sketches are not furnished.

If the client requests several designs for the same work, the fee for the first design is to be figured by (*a*) and (*b*), and the fees for the others are to be based on the extra work involved, with a minimum charge of one-half the full fee by (*a*) and (*b*).

The fees for the supervision are on the assumption that the construction is done by one or more contractors. Where contractors are not employed, the fee is to be double that for (*f*) for the works so constructed. The fees for (*e*) are to be charged in every case where the drawings of the design are employed wholly or in part for construction.

In case the commission is for the developed scheme only, the fees for (*e*) and (*f*) are to be increased one-fourth.

For reconstruction the fees are to be increased according to the additional labour involved, the minimum increase being one-half.

In case commissions or rebates are accepted from supply dealers or contractors, these are to be turned over to the client.

Expedition in preparing designs is to be exercised at the client's request without a special charge.

Section 2. *Contingent Fees.*—In the established schedule no allowance is made for the following services and expenses, which are to be paid by the client :—

The cost of all preliminary work for the design, such as surveys, measurements, examinations of foundations, borings, hydraulic gaugings, analyses, statistical studies, sketches and drawings of buildings in connection with designs for heating, ventilating, lighting, plumbing and mechanical plants. (The charge for surveys is to be based on the schedule of the German Surveyors' Association, to be obtained from its librarian at Munich.)

The cost of special supervision, that is to say, the salary of superintendents, inspectors, watchmen and like employés, the expense of establishing and running a special office, the cost of advertising and closing contracts, and the expense of the measurements for the final estimates. The salary of a superintendent for any one undertaking may be replaced when the architect or engineer assigns a superintendent to several undertakings by the proportion of his salary corresponding to the time spent on the work.

The cost in the case of buildings of the engineering advice in computations of strength, the design of mechanical plant and the like, and in the case of engineering works the expense of advice from architects and specialists concerning æsthetic features of the design.

The work in connection with acquiring title to land and buildings.

The journeys necessitated by the work.

The revised and progress drawings occasionally needed, and the final measurements in the case of highways, railways and canals.

Section 3. *Payments.*—Partial payments up to three-fourths of the fees estimated by this schedule are to be paid on request for services rendered. In particular three-fourths of the fees for the preliminary studies are due immediately after their completion; the remaining charges, divided between preliminary studies and executed scheme, are due three months after the completion of the commission.

Section 4. *Special Fees.*—Opinions, estimates, arbitration, calculations of strength, artistic counsel and the like are not comprehended in this schedule, and the fees for such services are to be based on the mental work involved, the professional standing of the person consulted, and the financial importance of the subject submitted.

For work to be done by the time required for it, the charge for the first hour will be 5 dols. and 1 dol. for each hour additional.

For journeys, in addition to the charges in previous sections, 6 dols. per day. This sum is also to be added for part of a day; but the charge for a day can be made only once, and must be divided, according to the conditions, if several clients are simultaneously served. To this per diem charge are to be added the expenditures for transportation and labourers.

The services of assistants are to be reckoned in the bill according to their position.

Section 5. *The Basis of Architects' Charges.*—The fees for services of architects in preliminary studies and executed schemes are to be proportional to the cost of construction, the class of work and the cost of finishing.

The cost of construction includes the entire expense of building. For the preliminary studies it is to be taken as the estimate of cost (*c*) in Section 1 and for the executed scheme as the final estimate. In case the final estimate has not been made, the estimate of cost will be taken, and in case this is wanting the rough appraisal.

The classification of architectural work is arranged as follows :—

Group 1.—Sheds, barns, stables, carriage-houses, greenhouses, warehouses, storehouses, slaughter-houses, shops, industrial buildings, mills, booths, public conveniences.

Group 2.—Dwelling-houses, hotels, stores, banks, schools, barracks, prisons, baths, hospitals, asylums, markets, business and office buildings and all buildings not specified in Groups 1 and 3.

Group 3.—All classes of churches, courthouses, memorial halls, high schools, academies, libraries, museums, theatres, concert halls, stock and other exchanges, city halls and state houses.

Group 4.—Memorials, fountains, grottoes, arbours, resting-places (Bänke), festive or funeral decorations, special structural works like altars and pulpits.

Group 5.—Furniture and artistic fittings, such as chandeliers.

The cost of finishing (Ausbausumme) includes that part of the cost of construction spent for finishing and decorating the rough structure, and is to be specifically shown in the preliminary and final estimates. For this purpose construction is subdivided as follows :—

General Construction.	Finishing.
Excavation.	
Brickwork.	Plastering and extra expense for tile facing.
Stonework. Delivery and setting of the materials in simple work (to be taken at two-thirds the total cost as a rule).	Increase due to facing up and ornamenting (to be taken at one-third the total as a rule).
Asphalte and waterproofing.	
Carpentry. Beams, framing, roof trusses.	Added cost for ornamentation and covering of timbers, floors, wooden stairs.
Ironwork.	Art metal work.
Roofing and tinning.	Metal decoration.
	Stucco.
	Statuary with models.
	Surfacing with tesseræ, mosaic, Dutch tile, terra-cotta, &c.
	Cabinet-work, glass-work and locksmith's work.
	Painting and hangings.
	Ventilation and heating.
	Plumbing.
	Mechanical and electrical plant.
Paving, walks, gardens.	
General.	Unforeseen work.

Section 6. *Computation of Architects' Fees.*—All the fees will be computed according to the proportions given in the accompanying table, in percentages of the cost of construction, which increase with the numerical order of the groups and with an increasing proportion of finishing work, but decrease with increasing cost of construction.

Architectural Fees, in Percentages of Cost of Construction.

Total Cost in Dollars.	Minimum Charge for Groups I–IV.				Extra for more Finish.	Charge for Group V.
	I.	II.	III.	IV.		
	Percentage Finish is to Total Cost.					
	20 %	30 %	40 %	50 %		
250	6.00	9.00	12.00	15.00	0.135	21.00
500	5.60	8.40	11.20	14.00	0.125	19.60
750	5.30	8.00	10.60	13.30	0.120	18.60
1,000	5.10	7.70	10.20	12.80	0.115	17.90
1,250	4.90	7·40	9·80	12.30	0.110	17.20
1,500	4.80	7.20	9·60	12.00	0.108	16.80
1,750	4.70	7.00	9.40	11.70	0.106	16.40
2,000	4.60	6.90	9.20	11.50	0.104	16.10
2,250	4.55	6.85	9.10	11.40	0.103	15.95
2,500	4.50	6.80	9.00	11.30	0.102	15.80
3,750	4.30	6.50	8.60	10.80	0.097	15.10
5,000	4.10	6.20	8.20	10.30	0.093	14.50
6,250	4.00	6.00	8.00	10.00	0.090	14.00
7,500	3.90	5.85	7.80	9.70	0.088	13.60
8,750	3.80	5.70	7.60	9.50	0.086	13.30
10,000	3.70	5.55	7.40	9.30	0.084	13.00
12,500	3.60	5.40	7.20	9.00	0.081	12.60
15,000	3.50	5·25	7.00	8.70	0.079	12.20
17,500	3.40	5.10	6.80	8.50	0.077	11.90
20,000	3.35	5.05	6.70	8.40	0.076	11.75
22,500	3.30	5.00	6.60	8.30	0.075	11.60
25,000	3.25	4.95	6.50	8.20	0.074	11.45
37,500	3.10	4.70	6.20	7.80	0.070	10.90
50,000	3.00	4.50	6.00	7.50	0·067	10.50
62,500	2.90	4.30	5·80	7·20	0.065	10.10
75,000	2.80	4.20	5.60	7.00	0.063	9.80
87,500	2.75	4.10	5.50	6.90	0.062	9·65
100,000	2.70	4.00	5.40	6.80	0.061	9.50
125,000	2.65	3.90	5.30	6.60	0.059	9.25
150,000	2.60	3.80	5.20	6·40	0.058	9.00
175,000	2.55	3.75	5.10	6.30	0.057	8.85
200,000	2.50	3.70	5.00	6.20	0.056	8.70
225,000	2.45	3.65	4.90	6.10	0.055	8.55
250,000	2.40	3.60	4.80	6.00	0.054	8.40
312,500	2.30	3.45	4.60	5.80	0.052	8.10
375,000	2.20	3.30	4.45	5.60	0.050	7.80
500,000	2.10	3.20	4.30	5.40	0.049	7.50
625,000	2.05	3.10	4.15	5.20	0.047	7.25
750,000	2.00	3.00	4.00	5.00	0.045	7.00
1,000,000	1.95	2.95	3.90	4.90	0.044	6·85
1,250,000	1.90	2.90	3.80	4.80	0.043	6.70
1,500,000	1.85	2.85	3.70	4.70	0.042	6.55
1,750,000	1.80	2.80	3.65	4.60	0.041	6.40
2,500,000	1·75	2.70	3.55	4.50	0.040	6.30

Note.—In using this table, the total cost will be rounded off to the next higher tabulated amount provided the fees are increased by so doing.

The minimum charges in Groups 1 to 4 inclusive, are for works where the finishing work does not cost more than the percentage of the total cost stated in the table under the number of the group; and for each 1 per cent. excess the additional charge is given in the sixth column.

In case the cost of the finishing work is not given, the minimum charge is to be made. After a design has been furnished, it is the architect's duty, however, to furnish this information in a preliminary estimate of the cost of construction.

The separate fees, in percentages of the total amount in table, are reckoned as follows :—

Preliminary	(*a*)	Sketch	10	per cent.
,,	(*b*)	Design	20	,,
,,	(*c*)	Estimate	7	,,
,,	(*d*)	Official papers	3	,,
Ex. work	(*e*)	Building drawings	20	,,
		Working drawings	20	,,
	(*f*)	Supervision	20	,,

Example: sketches and designs of villa estimated to cost 25,000 dols. This falls under Group 2.

$$(25{,}000 \text{ dols.} \div 100) \times 4.95 \times 0.30 = 371.25 \text{ dols.}$$

fee for the work.

The fees for the whole of the preliminary work of the same villa are figured as follows, assuming that the estimated total cost is 25,000 dols., of which 12,500 dols. is for finishing work. By Group 2

$$(25{,}000 \text{ dols.} \div 100)\,[4.95 + (50 - 30)0.074]0.40 = 643 \text{ dols.}$$

The fees for all the work of the same villa, based on a final estimate of 30,000 dols., of which 16,500 dols. is for finishing work, are found as follows. By Group 2

$$(25{,}000 \text{ dols.} \div 100)\,[4.95 + (20 \times 0.074)]0.40 +$$
$$(30{,}000 \text{ dols.} \div 100)\,[4.70 + (25 \times 0.070)]0.60 = 1{,}804 \text{ dols.}$$

YORK ARCHITECTURAL SOCIETY.

THE members of this Society visited Kirkham Priory on the 8th inst. The party listened with interest to a paper on the history and architectural features of the Priory, which the president (Mr. C. H. Channon, F.R.I.B.A.) read from the steps of the cross. A paper on the heraldry on the gateway, prepared by Lord Hawkesbury and presented to the Society, was read by the secretary (Mr. Geo. Benson, A.R.I.B A.). The Priory was founded in 1121 by Sir Walter Espec and his wife, Adeline, for canons regular of the Order of St. Augustine and in honour of the Holy Trinity. The Priory church was cruciform, having an aisleless nave, transepts with chapels, central tower and square-ended choir with aisles. South of the nave was the cloister, round which the Priory buildings were grouped. The south wall of the cloister contains a beautiful Late Norman enriched doorway, leading to the refectory. Of the choir, a single lancet remains at the east end, with side shafts and capitals of foliage; it is a precious fragment, enabling one to realise the beauty of the complete choir. The designer has impressed his individuality on the lancet window. It differs from other work, but has a quiet dignity of its own. About 1290 the Norman gatehouse had a decorated design grafted on it; the tracery in the two windows is exquisite. Heraldry plays an important part in the decoration of the gatehouse front; the shields are those of Clare, Plantagenet, Ros, Vaux, Fitzwilliam, Scrope and Vesci. About this period the lavatory in the cloister was inserted; it is a beautiful composition of Geometrical Decorated work. On the motion of the President a hearty vote of thanks was accorded to Lord Hawkesbury for his kindness in permitting the members to view the ruins of the Priory, and also for the gift of his book on "The Heraldry on the Gateway." After tea kindly provided by the President, a visit was paid to Crambe Church, an edifice with a pre-Norman chancel arch, Norman windows in nave and chancel and an interesting Norman font. The modern church of Whitwell was next visited, followed by a walk to Whitwell Hill, from whence a distant view of York with its minster was obtained.

"NEW ART" FURNITURE.

THE Secretary of the Board of Education, secondary branch, announces that the nation is indebted to Mr. George Donaldson for his generosity in presenting to the Victoria and Albert Museum a collection of "new art" furniture. Mr. Donaldson, who is an accepted authority in all matters pertaining to furniture, modern and old, was in 1889 elected vice-president of the jury of awards for furniture at the Paris Exhibition, and was unanimously chosen again last year as vice-president of the recent Paris Universal Exhibition. In the process of making the awards, Mr. Donaldson noticed that in the past eleven years a remarkable and distinct art development had taken place all over Europe, causing a mercantile change of quite exceptional proportions, but one of which England was practically unconscious. On learning that the Victoria and Albert Museum had insufficient funds for allocation to this particular branch of art and could not, therefore, place before English designers, craftsmen and manufacturers the choicest European examples of the "new art" production in furniture, Mr. Donaldson wrote to the President of the Board of Education and offered to purchase a selection of the best examples of "new art" furniture in the Paris Exhibition of 1900, and to present them to the Victoria and Albert Museum. His object was to exhibit them in the first instance at the museum and then to send them for exhibition successively to our chief manufacturing towns, in order that the manufacturers and artisans of this country might see what other nations are striving for in the direction of original design not based upon past productions. This offer was gladly accepted, and the collection is now arranged in the tapestry court of the art museum.

GENERAL.

The Council of the Society of Arts attended at Marlborough House to present the King with the Albert medal of the Society, which had been awarded to His Majesty "in recognition of the aid rendered by His Majesty to arts, manufactures and commerce during thirty-eight years' presidency of the Society of Arts, by undertaking the direction of important exhibitions in this country and the executive control of British representation at international exhibitions abroad, and also by many other services to the cause of British industry."

The Plumbers' Company distributed certificates of registration to some 200 master and operative plumbers at the Guildhall on Saturday afternoon.

Mr. F. Bowcher is being honoured with sittings by His Majesty for the London School Board attendance medal, entitled "The King Edward VII. medal."

The Bishop of Llandaff has reopened the old parish church of Merthyr Tydfil, which has been restored at a cost of 7,000*l.* The tower was partially pulled down and rebuilt in order to receive a peal of bells, the gift of Sir W. T. Lewis and seven other inhabitants, and he was also the donor of a large stained-glass window.

The Lewes Board of Guardians have agreed to purchase the property in Commercial Square and West Street, and erect on the site a board-room, committee-room, waiting-rooms, relief-pay station, register offices for the clerk and relieving officers, and apartments for a caretaker.

A Town Hall for the borough of Dukinfield, which was incorporated two years ago, was opened on Saturday. The building, a Gothic structure, has cost 15,000*l.*

The Foundation-stone of a church at Eastbourne was laid last Friday. The architect, Mr. Granville E. S. Streatfield, is using flint, relieved with Bath stone. The building committee have decided, in the event of the money not being immediately forthcoming, to first have erected the chancel, morning chapel and vestries, and to have a temporary nave, leaving the completion of the work until such time as the money is forthcoming. The contract has been given to Mr. Mark Martin, of Eastbourne, the price being 4,184*l*, exclusive of the cost of the temporary nave, which will be 350*l.*

The Archbishop of Canterbury laid on Tuesday the memorial-stone of Wakefield Cathedral extension being erected as a memorial of the late Bishop How. The present extension scheme will cost 40,000*l.*

The First Commissioner of Works has stated that the National Gallery will be completely isolated from the buildings which are adjacent to it on the west; the nearest building will be the south-east angle of a stable which will be 35 feet from the north-west corner of the National Gallery. With this exception the space between the buildings will be about 40 feet. The barracks adjoining the National Gallery are to be pulled down at the end of the present year.

Mr. John A. Russell Inglis, of the firm of Messrs. Williamson & Inglis, architects, Edinburgh and Kirkcaldy, has died in Edinburgh. For some time past he had been subject to sleeplessness, and it is supposed that an overdose of a sleeping draught led to his death.

The Annual Conversazione of the Institution of Electrical Engineers was held on Friday in the Natural History Museum, Cromwell Road, South Kensington. Mr. W. E. Langdon, the president, and Miss Langdon received the guests, who numbered about 1,200.

A Conference of French architects will be held in Nancy from June 23 to June 29.

Mr. Akers Douglas, the First Commissioner of Works, has said that if any decision be come to in regard to the memorial of Queen Victoria which will involve an alteration of the Mall, he will undertake to exhibit the proposed design.

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OF THE
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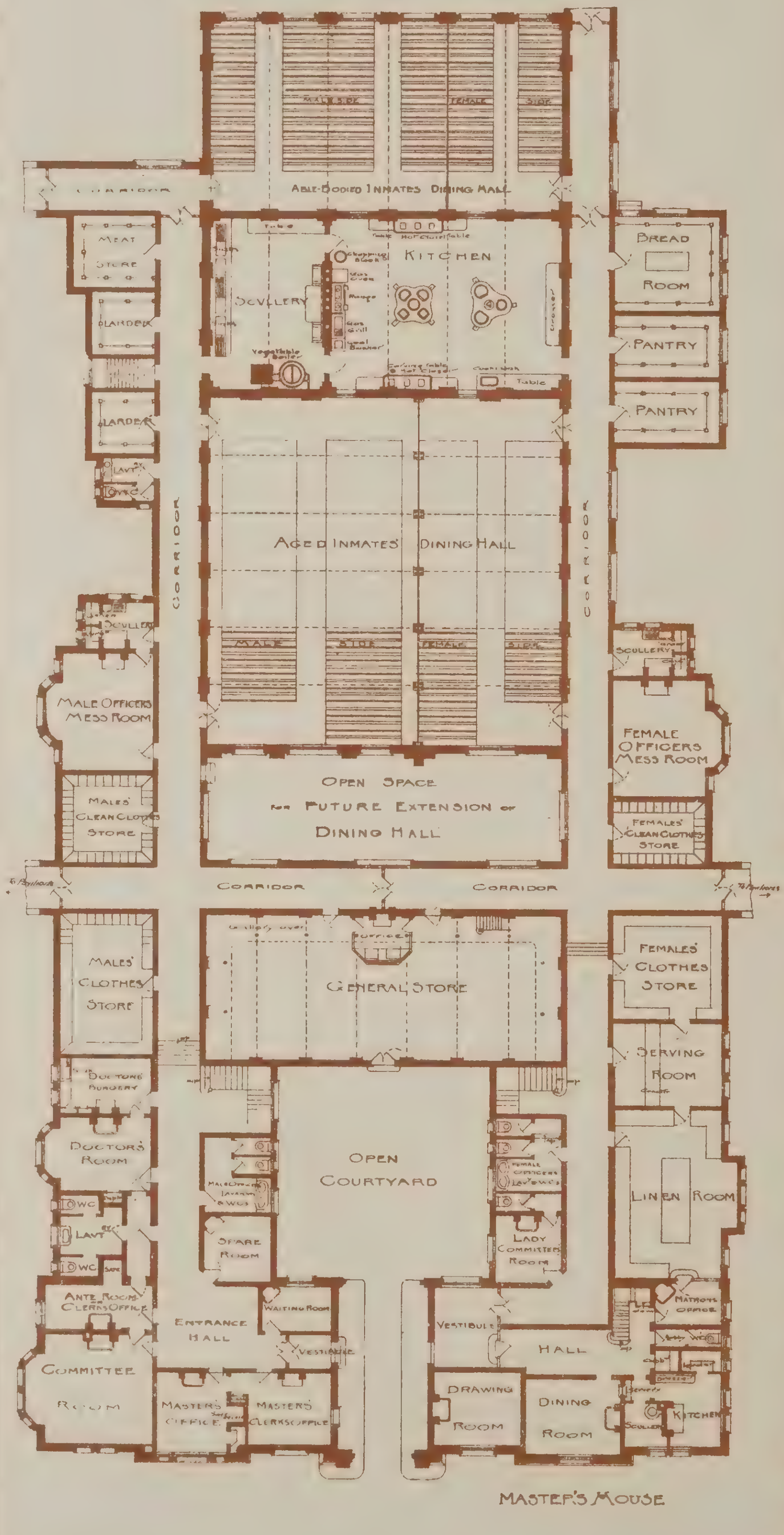
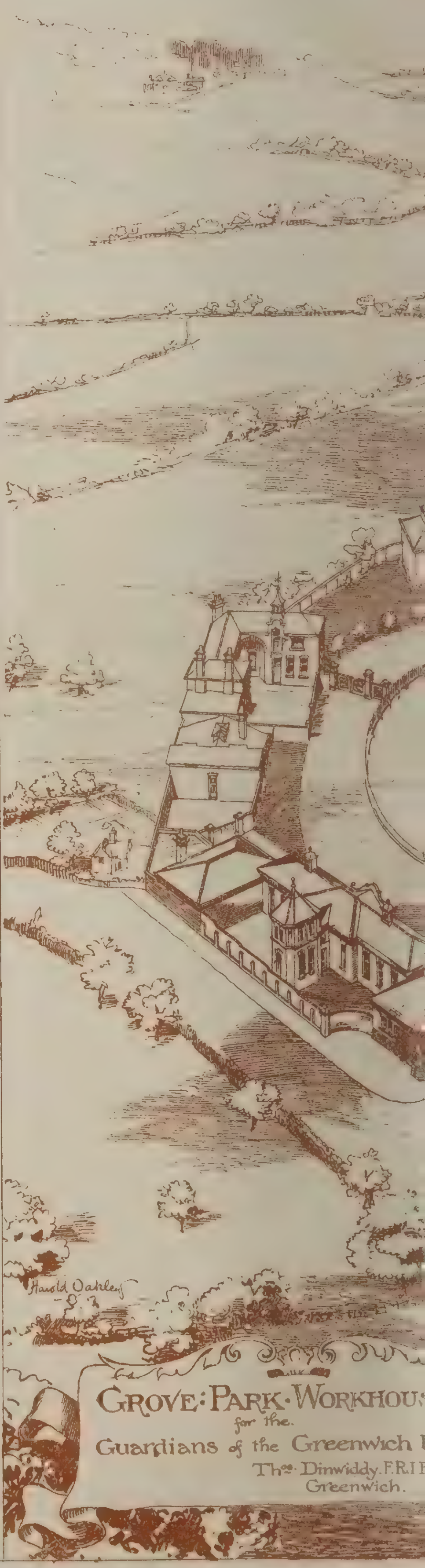
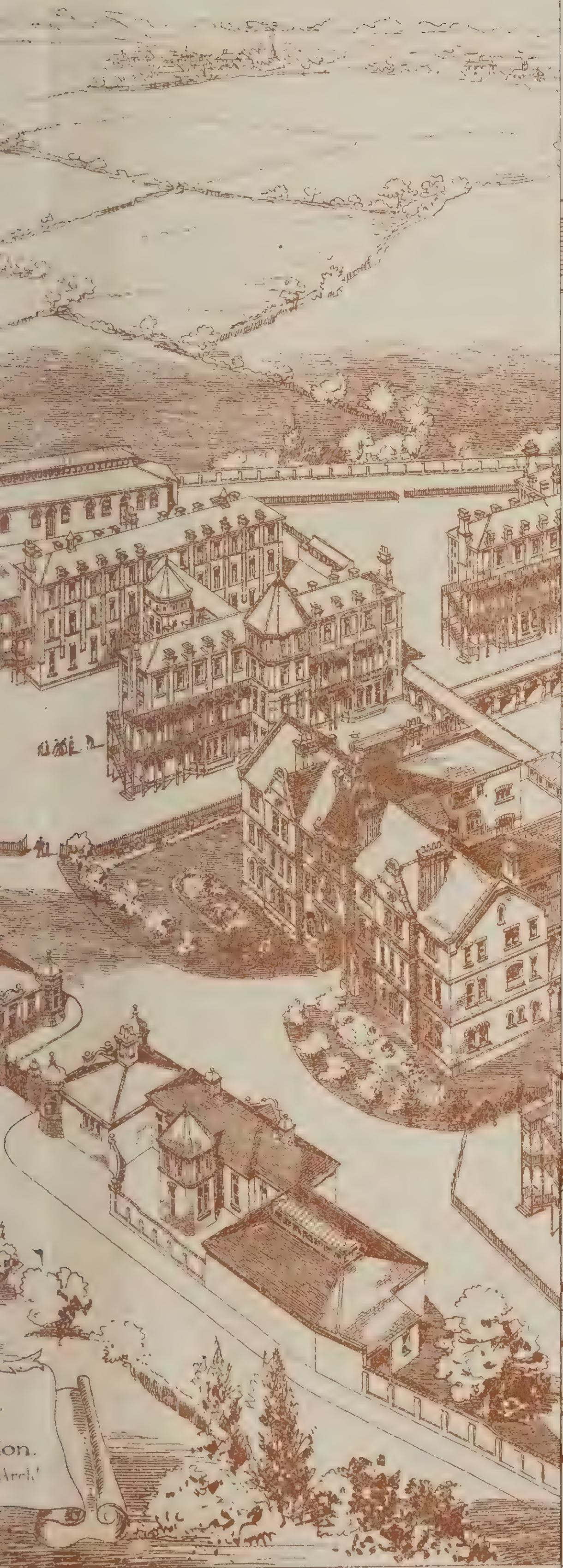
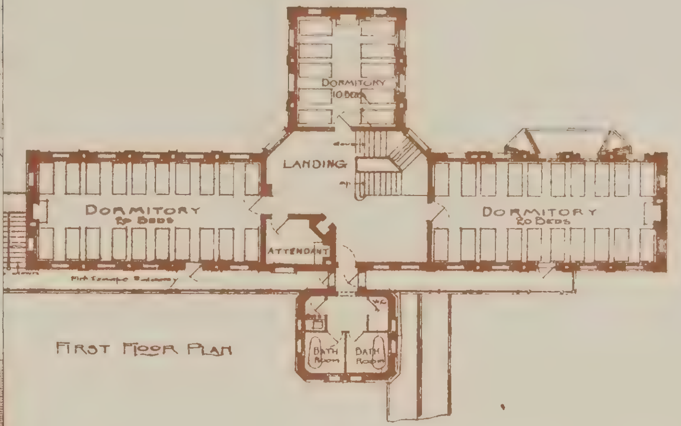


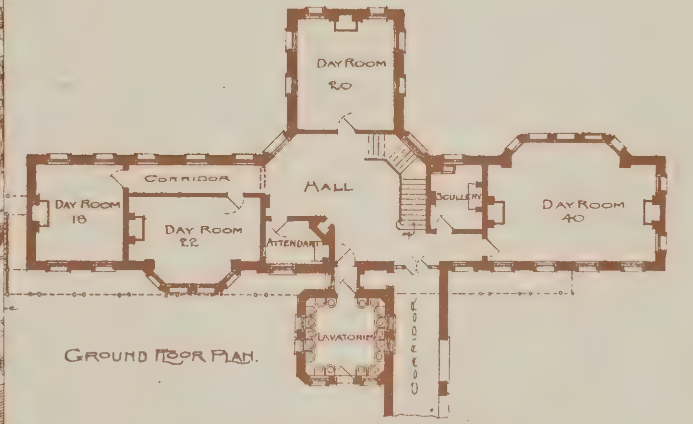


GROVE: PARK · WORKHOUS
for the.
Guardians of the Greenwich
Thos. Dinwiddy. F.R.I.B
Greenwich.

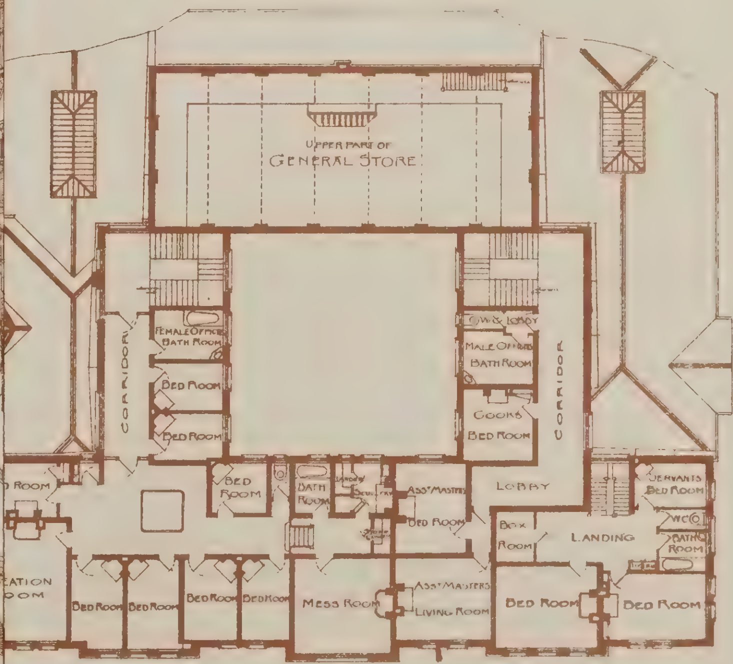




FIRST FLOOR PLAN



GROUND FLOOR PLAN.



NURSE'S QUARTERS.

MASTER'S MOUSE

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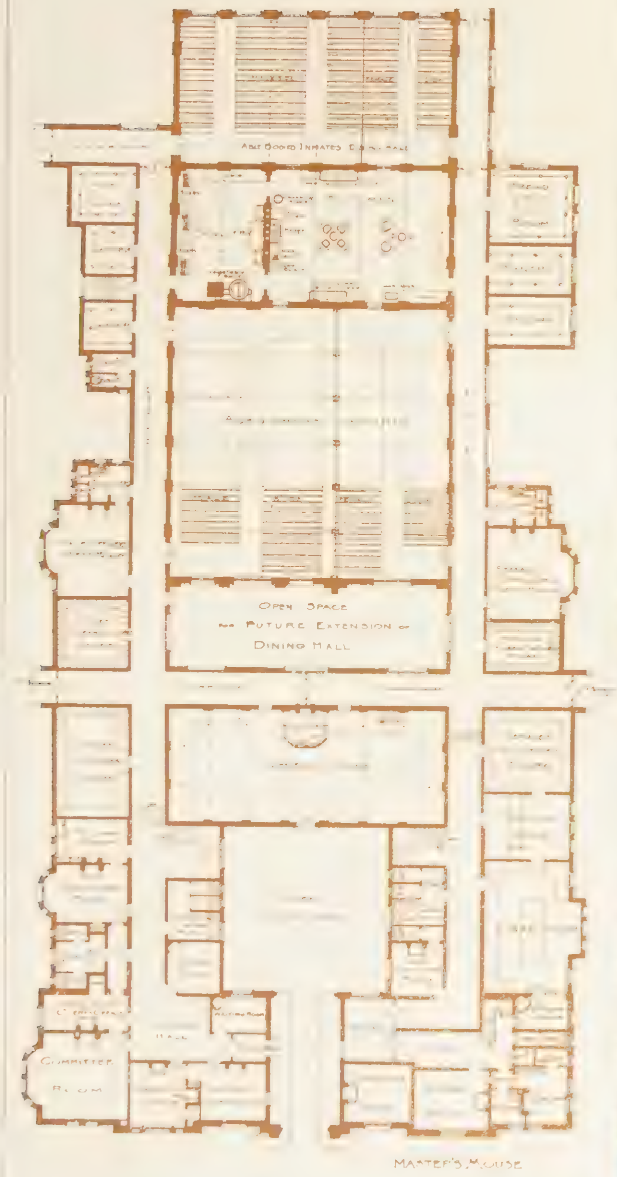
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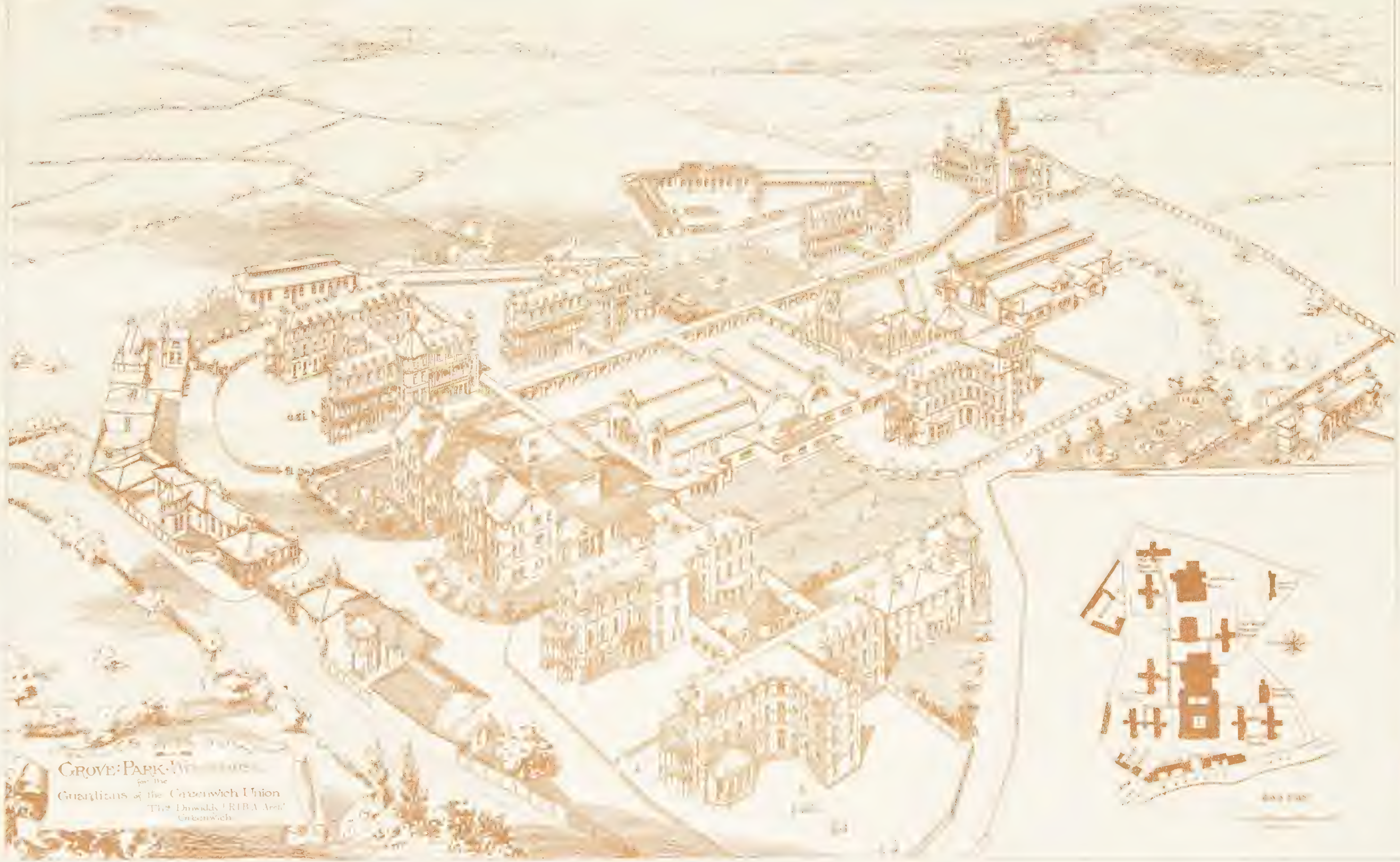
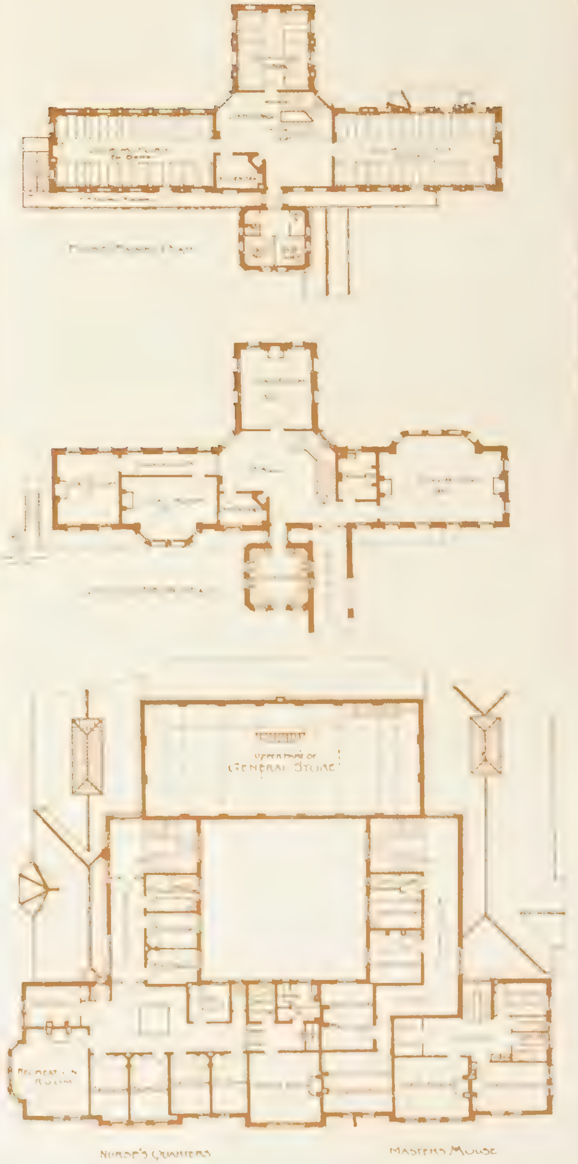
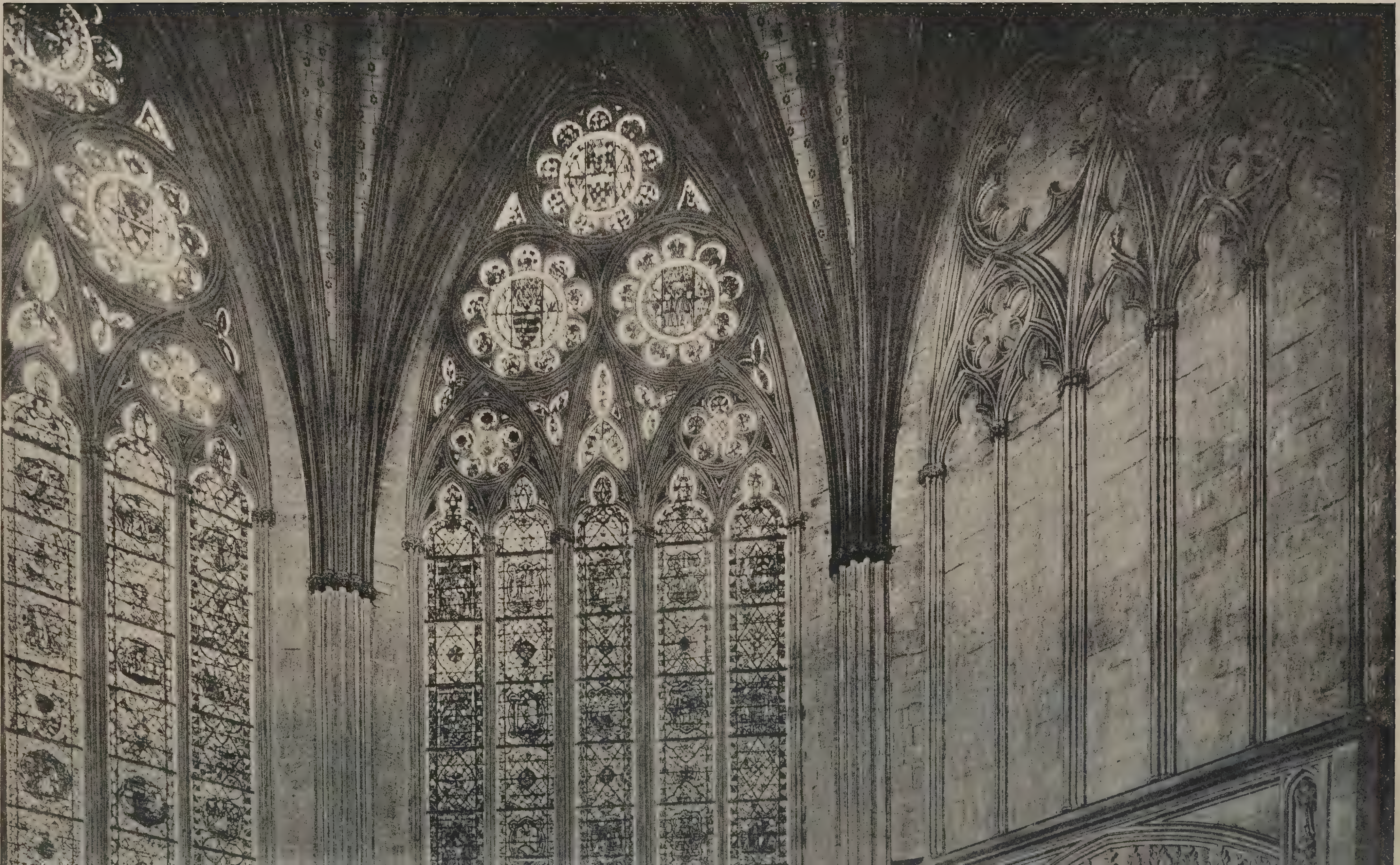
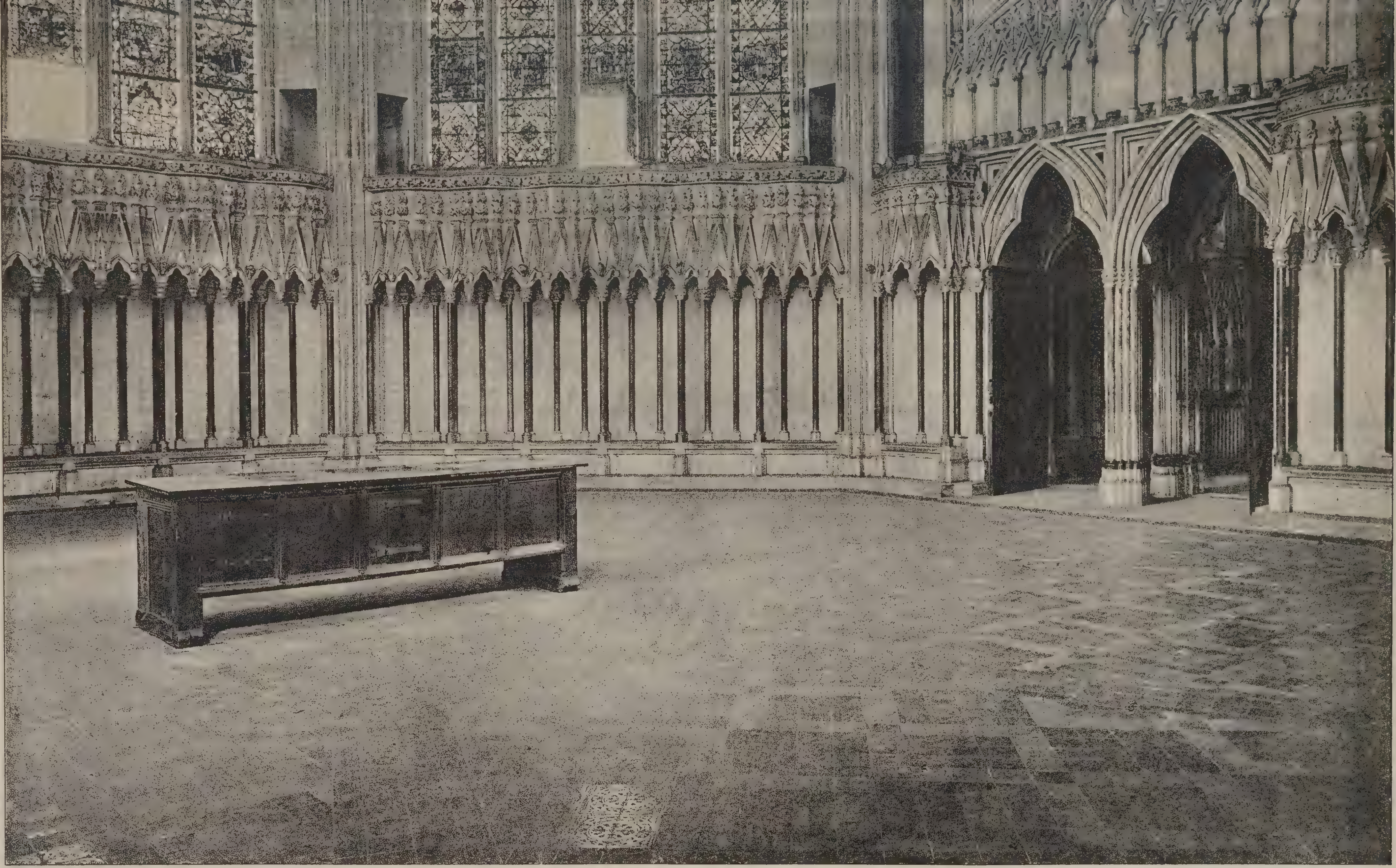
Open Space for Future Extension of Dining Hall
Committee Room
Hall
Master's House



# GROVE: PARK: WORKHOUSE
for the
Guardians of the Greenwich Union
Thos Dinwiddy F.R.I.B.A. Archt
Greenwich







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CATHEDRAL SERIES, No. 338.—YORK MINSTER: THE CHAPTER-HOUSE.

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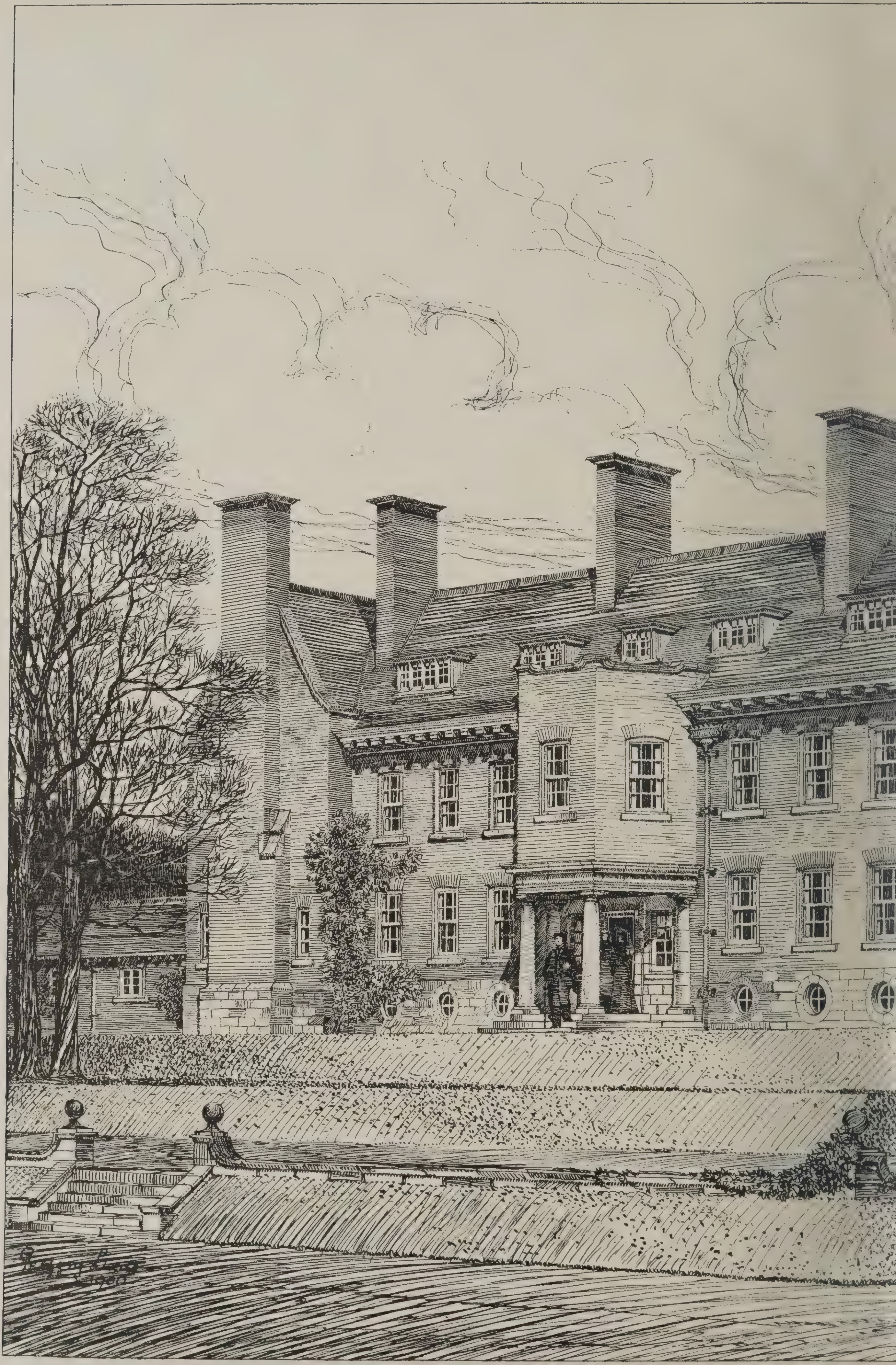

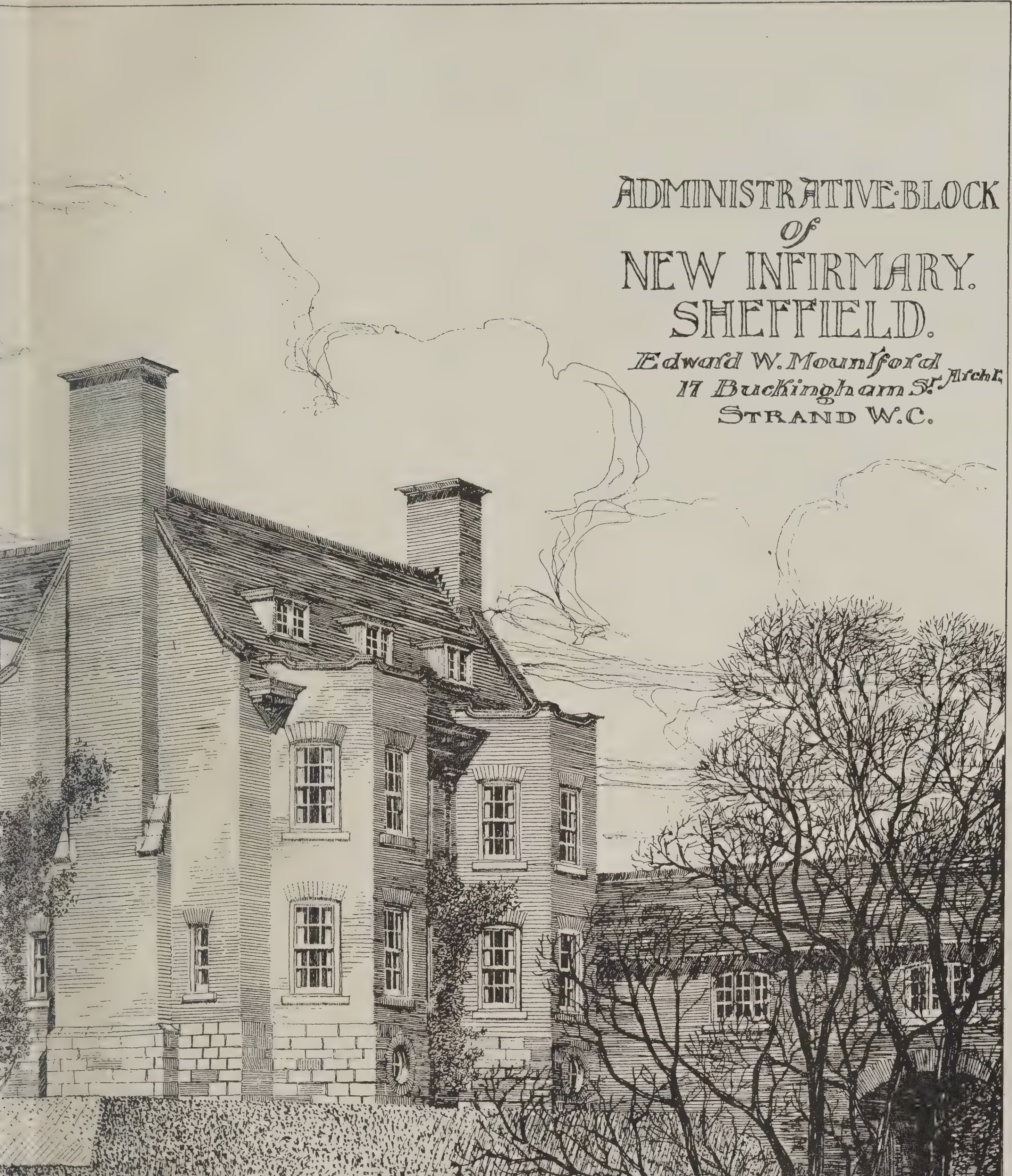

ADMINISTRATIVE·BLOCK
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SHEFFIELD.

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The Architect.

THE WEEK.

The annual general meeting of the Society of Arts was held on Wednesday, the 26th inst. The report of the council was read by the secretary. It summarised the proceedings of the Society during the last twelve months, giving an account of the various papers which had been read and the work of the Society's different committees. Amongst other matters referred to was the resignation of the presidentship of the Society by the King, who, as Prince of Wales, held the office from 1863. His Majesty, however, while ceasing to be president, has become patron of the Society. On the occasion of his resignation the council presented to His Majesty the Society's Albert Medal, which during the past forty years has been awarded to a number of men distinguished for their scientific eminence, or for their services to industry and the arts. During the year a committee of the Society has produced an important report on leather for bookbinding, which will be published in a few days. This committee has determined the causes which produce decay in modern leather bookbindings, and recommends a method of manufacture which ought to be free from the usual defects. At the conclusion of the reading of the report the result of the ballot for the election of the new Council was announced, the president for the coming year being Sir Frederick Bramwell, Bart., F.R.S.

At the present time people have reason to complain about the inconvenience caused by paving of the streets. London Bridge is again "up," and as it seems to be taken as the normal roadway we suppose many other important thoroughfares will soon be in a like condition. The suburbs appear to suffer equally with the City. At Ealing there was lately a discussion on the subject, and one of the local councillors said "there was only one man who could provide the blocks the Council were using," viz. red gum blocks. Mr. Duffy, the managing director of the Acme Flooring Company, says that, "although the gentleman referred to (Mr. Alcock) was the first to introduce American red gum as a paving wood in this country, he is by no means the only one from whom that wood could have been obtained. Had inquiries been made, it would have been found that others were prepared to supply these blocks, imported from the same part of the Mississippi Valley, U.S.A., and of similar and, in fact, of identical quality. Probably this was not known at the time by the surveyor, or an opportunity would have been given to other importers to tender for the blocks required by his Council. However, at the recent Building Trades Exhibition, Agricultural Hall (surveyors' section), some of the Ealing councillors had the opportunity of seeing the Acme Company's samples of red gum, so that in any future paving work which may be undertaken in Ealing with this class of wood they will know that we among others will be prepared to supply any quantity of blocks that may be required for that purpose." It is likely that in other parts of the Metropolis delays may arise from want of material, and the authorities should institute inquiries to discover whether the real cause of the stoppage of traffic does not come from the creation of monopolies.

Two Dilapidation Bills have been introduced into Parliament. In one of them it is proposed to establish in each diocese a Board of Dilapidations, consisting of clergy and laity. All incumbents are to pay to it a contribution according to the rateable value of the buildings they use. The cost of repairs will as far as possible be paid out of the fund. Any deficiency is to be met by the Board, who will have the power to obtain an increased annual payment from the incumbent to defray it. It is proposed that the buildings should be examined by the surveyor, and repaired regularly at periods of seven years. The expenses of the Board are to be met by the interest on the annual payments. It would be well to obtain the assistance of laymen, but as contributions from them cannot be made compulsory the incumbents will still have to bear the lion's share of the charges. Lord Grimthorpe has drafted a Bill which he describes as follows:—"The principle of this Bill is to give reasonable inducements to incumbents to act properly with regard to their buildings, and free them from the annoyance and tyranny of diocesan surveyors, who have no interest in doing right. And I reject altogether the idea of taxing those who are doing their duty, in order to form an insurance fund for the benefit of those who prefer the chance of ruin to their buildings and their families or themselves. Also, I remark that a new incumbent is more likely to judge rightly what he really wants, with the help of a builder or surveyor of his own choosing, than any official one, subject to the approval of the patron, who represents all subsequent incumbents' interests." His lordship is not friendly disposed towards diocesan surveyors, and he looks upon them as the cause of many of the grievances of incumbents. The surveyors are, however, the guardians of ecclesiastical property in the form of parsonages, and without their watchfulness the buildings would not be much of an inheritance. The duties they have to perform are often most disagreeable. As long as the ecclesiastical authorities or the parishioners will not undertake to keep parsonages in a condition adapted for occupation the representatives of incumbents must bear the burden, and the surveyor has only to see the work properly done without fear or favour. If any other course is desired Parliament can decree its adoption.

A congress of architects has been held in Dijon, in which something else besides the everlasting question of education was discussed. The conclusion was arrived at that carbonate of lead should not be adopted in house painting. The opinion of the other architectural societies is to be sought in order to ascertain whether a substitute cannot be discovered. The material has been often condemned, but still white lead is most generally employed not only as a pigment but as a base for other colours. It is remarkable to find Frenchmen rising in opposition to the substance. Another important subject considered was federation. There are several architectural societies in France, and each claims pre-eminence. As the Société Centrale contains several Parisian architects, it makes the loudest and most persistent demands to be regarded as the most influential institution. But outside the offices there is no recognition of a superior power. The provincial architects at Dijon decided to oppose all attempts at federation, for it has been found that local societies are far more useful in promoting the interests of their members than any body with its headquarters in Paris is ever likely to become.

"Henri Heine—'tis here! The black tombstone, the name carved there—no more!" With these words Matthew Arnold began his poem on Heine's grave, for only a sandstone slab with the inscription "Henri Heine" marks the last resting-place of the German poet. His relatives were all rich people, and it was long believed they would raise a memorial worthy of the author of the "Buch der Lieder" and the "Romancero." But the expectations were disappointed. It is possible, however, that before long the cemetery of the "Verbannten und Geächteten" at Montmartre will contain a statue of the poet which has a history. It belonged to the late unfortunate Empress of Austria, and she had it placed in the villa at Corfu which she had erected and called the Achilleon. Heine was the favourite poet of the Empress. After her death the villa and park were purchased by an Italian gentleman. He is willing to sell the statue, which is the work of the Danish sculptor Hasselrüs. The committee that was formed in Paris in the hope of raising a memorial has made arrangements to acquire the statue in order that it may be placed where the poet sleeps "under the wings of renown." But there is a fatality about all Heine memorials, of which the latest instance was seen in the failure to erect one in New York. The Parisian committee, we trust, will be more fortunate, but happily Heine's fame does not depend on any work in marble.

ANDREA RICCIO.

Vasari's "Lives" are as universally esteemed as if they formed the libra-d'oro of Renaissance art. Not to be mentioned in one of them is supposed to mean the inefficiency of a painter, sculptor or architect. It is, we believe, owing to the neglect of Vasari, that Andrea Riccio's name is now so seldom heard. Yet there is no doubt he was one of the chief artists of the sixteenth century, which was a time productive of men of genius. He was not, however, as versatile as some of his contemporaries. His reputation is derived mainly from his reliefs, but tradition supports the belief that he was also distinguished as an architect. The church of St. Justine in Padua, with its numerous open-worked cupolas, is said to have been designed by him, and its novelty supports that view. It should be mentioned, however, that some writers of authority give the credit to a Benedictine, Geronimo, of Brescia. Kugler, who describes the church as "ein Gebäude von edelster Harmonie," entertains no doubt about Riccio's connection with it. The excess of cupolas, which is the principal defect of the building, he believes was owing to a desire to rival the church of St. Anthony, which was always looked upon as the most important building in Padua.

It was in Padua, which now appears to belong to an extinct race, that Andrea Riccio was born in 1480. He was related to Alexander Bassien, whose medals, known as "Paduans," have deceived many experts, for they are commonly taken to be genuine works of antiquity. Vasari would have been able to have garnered up traditions about Riccio, but as he avoided the duty there was no other biographer found who would undertake it. Like many other Renaissance artists, Riccio is believed to have acquired his skill in modelling while serving as a goldsmith's apprentice. His master is reported to have been Ballano, who enjoyed a considerable renown as a worker in precious metals. But according to Scardicone's account of Padua, Riccio was an imitator rather than a pupil of Ballano. It is also related that he gained much by making studies from paintings by Mantegna, which were supposed to be inspired by the spirit of antiquity. Many of the heads, especially of old men, in his reliefs are evidence that he gave attention to drawings by Da Vinci. At the time there was an enthusiasm for art, and every new manifestation was taken as a victory in the ateliers, and if possible profit was derived from it by masters and pupils alike. Although the artists were not free from jealousy, yet the best amongst them were glad, as it were, to add to the common stock; and, on the other hand, no reputation prevented a grand artist from deriving suggestions from the works of men who were supposed to be inferior to himself. Raphael, who was the greatest painter of that time, was also the greatest borrower, and made no scruple of taking figures or parts of figures from paintings or designs by artists who, compared with himself, were of a humble class.

Riccio does not appear to have travelled as far as many of his contemporaries, and the influence of other artists upon him must have been indirect. The works on which his reputation rests were all produced in Padua, and were intended to remain there. They are now, however, scattered, and some of the best are to be seen in Paris. His great bronze chandelier, which in his own estimation was his masterpiece, was produced for the church of St. Anthony. It was completed in 1515, and it is said the artist was engaged during ten years upon it. It was long reckoned to be among the most beautiful productions of Renaissance sculpture. But the overcrowding of details rather diminishes its effect. The sculptor had evidently studied antique examples, but like many of his contemporaries he was not afraid to improve, as he thought, on the old simplicity—a task that was as wasteful of time and labour as any gilding refined gold, painting a lily, or adding perfume to the violet. Two reliefs by Riccio are also to be seen in the church of St. Anthony; one represents *David Dancing before the Ark* and the other *Judith and Holophernes*.

Few would care to visit Padua for the sake of examining the work by Riccio which is still to be found in the churches in the city. In one sense it is therefore fortunate that the bronze bas-reliefs which, when their revolutionary army visited Italy, were torn by the French from the mausoleum of the Torreani family in the church of San Fermo, Verona, are to be seen in Paris. The subjects of the eight works were so little understood, they were at first described as representing the history of Mausolus, the king of Caria. Cicognara declared the subjects to be the life, sickness and death of Geronimo de la Torre, who was a famous physician and anatomist. It may be added that his son assisted Leonardo da Vinci in his anatomical studies. Quatremère de Quincy believed that the incidents were not connected with any individual, but represented the vicissitudes of human life in general. The whole series exemplifies the connection which in the sixteenth century was thought to exist between everyday scenes and mythological legends.

The first of those which are to be seen in the Louvre shows several young physicians around the bed of the Professor. He appears to be lecturing them about their consultation over his own case. Apollo and Mercury and another figure, supposed to be Hygeia, are introduced as if they were actors in the scene. In the next relief Geronimo is seen in his last moments surrounded by his family. Apollo is about to pronounce the fatal sentence, whilst "the blind fury with the abhorred shears" is preparing to slit the thin-spun life. The old anatomist seems conscious of the fate that awaits him, and turns away the medicine which is offered. In the third relief a sacrifice is about to be offered to the gods for the restoration of De la Torre. Victims are brought from all sides, or rather all quarters, of Verona. The serpent of Æsculapius appears to enjoy the offerings on the altar, but all is in vain, for the gods will neither accept victims nor fruits. The next scene reveals the moment after death. The whole family is in grief, and the lamentations are almost audible. For a representation of this kind Riccio was able to derive aid from many antique bas-reliefs. Next we have the funeral, and a suggestion is given of the monument which was afterwards erected, and in which lapis-lazuli and other precious stones were employed. While on earth the funeral is taking place the soul of the Professor has to take its place in Charon's boat. Centaurs, sphinxes and gorgons are seen on one side, while amorini and winged figures are endeavouring to hasten the boat to the regions of the blessed. As is to be expected, the next scene shows the Elysian fields. There the Professor encounters some of the philosophers whose works he expounded in Verona, but the most pleasing parts of the composition are the groups of children, for Riccio, like George Eliot, believed they alone formed the link between earth and heaven. Finally Renown appears to have returned from the banks of the Styx to proclaim the virtues and successes of the physician, but in spite of her resounding voices the name of Geronimo de la Torre is no longer heard on earth, and few can explain the reasons why a claim was set up for his celebrity.

Riccio was a master of modelling. Some of his contemporaries wished to suggest that the treatment of sculpture in bronze should be characterised by the hardness and stiffness of the material. To Riccio bronze was a substance which could be melted, and in that state was no less pliant than wax. The flexibility of his figures anticipated later work. He could not avoid in the class of subjects he selected having more than one plane, but he never went to the extremes which are to be seen in some Renaissance work. His composition is always agreeable, the figures are numerous, the attitudes varied, and the expression is generally suited to the purpose which the figure is to express.

In the Venetian Academy are two reliefs of the *Battle of Constantine* and the *Emperor's Entry into Rome*, with others representing the *Finding of the True Cross*. In all these works the influence of paintings is visible, and at that time there was no other way to bring sculpture into relation with life. It was their pictorial qualities which gained for Ghiberti's gates the admiration of Michel Angelo, and Riccio might be considered as a pupil of the same school. The sculptor lived until 1535. Like so many of the Paduan artists and writers, he was buried in the church of San Giovanni di Verdara. His tomb was adorned by his portrait in bronze, but some vandal removed it, and it is no longer to be recognised in any European museum.

THE VAULTING OF GLASGOW CATHEDRAL.*

THERE is no more effectual way of exciting interest in a subject than by raising a controversy over it. Glasgow Cathedral is in that position, and all architects who visit the city during the holiday season will do well to investigate the problems relating to the building which have been under discussion, and which are of unusual importance. If Jonathan Oldbuck was prepared to suffer death on account of Gothic architecture, he would find in Glasgow Cathedral a cause which might make him brave preliminary tortures as well.

Everybody knows there are two divisions in Glasgow Cathedral. The lower church receives most attention from the majority of visitors because it contains what is known as Rob Roy's Pillar. It is commonly called a crypt, but it is unlike any of those which we possess in England. For interest the vaulting is unmatched. The controversy to which we have referred arises out of the character of the construction. The crypt, or lower part, must have always displayed the dim religious light, but owing to the opacity of the painted glass it is probably less adapted than ever to aid any student who endeavours to investigate the structural peculiarities. A visitor is therefore to be excused who takes it for granted that the vaulting is of an uniform arrangement. The main object of Mr. Watson's volume is to demonstrate that there are no less than five varieties of vaulting to be seen by any one who will take the trouble to scrutinise the work, especially on occasions when the lower church is illuminated.

Sir Gilbert Scott, who could only have made a cursory examination of the lower chapel, treated the vaulting as if it were one of those caprices in which Mediæval architects occasionally indulged when under the influence of what the Germans call the "play-impulse," for he said:—

> This crypt is a work in which the architect would appear to have revelled in self-sought perplexities, and to have solved them, one after another, with singular success. The portion of the crypt which represents the choir overhead is really one of the most lively and amusing pieces of vaulting I know. It consists of ten bays, and as the east end is necessarily divided into two bays, for the support of those above, nothing would have been more natural than to have placed an intermediate row of columns down the centre, dividing the whole into two ordinary ranges of vaulting. But the architect would have lost his fun by any such commonplace scheme, and we should have lost a pretty and instructive puzzle.

According to Scott, "the perplexity of the effect of the crypt arises not so much from the difficulty of any of the forms of vaulting, as from the constant change from one form to another, no two adjoining divisions being alike. The whole is carried out with excellent detail, and forms a most beautiful and interesting interior." It is hardly allowable for a modern critic to find fault with Mediæval arrangements. The architects then had their own ideas about effects, and what is known as the middle vault at Glasgow would appear to be in close correspondence with a plan shown in Vilars de Honcour's sketch-book. But Scott's words are enough to suggest how he was impressed with the variety of the Glasgow vaulting, although he was incorrect when he attempted to define its origin. The whole of the vaulting was planned with northern seriousness and it is deserving of as much admiration as any example of masonry to be found in Great Britain.

There is unfortunately no record beyond the work itself to explain the circumstances which attended the erection of the cathedral. Viollet-le-Duc says all the great cathedrals in central France are to be ascribed to the period of sixty years between 1180 and 1240. Glasgow Cathedral is mainly the work of three bishops who ruled the see within a period of about eighty years, viz. Jocelin, 1175 to 1199; Walter, 1208 to 1232; and Bondington, 1232 to 1258. Hitherto the credit for the most important part of the structure was ascribed to Jocelin, but Mr. Honeyman long ago proved that much was owing to Bondington. Mr. Watson maintains "that the greater part of the work now attributed to Jocelin is not of his period at all, but that of Walter. Jocelin planned a large building in the style of the time. But all that can be recognised as his work is "confined to a small section of the building, and consists of fragments merely of his church, and these not *in situ*." From this it will be evident that chronological difficulties await solution as well as those belonging to style.

It may now seem strange that a building which in general is severe in its details required so long a period for erection. There was a proverb which said "St. Mungo's work will never be finished." The choir was in hand for at least half a century, and the nave remained unfinished for over a hundred years. Mr. Watson attributes the delay to financial difficulties. The diocese was of vast area, and in the thirteenth century the remote parts took long to visit; at least no other cause can be discovered to explain the slowness of the operations, and which was not without effect on the style. In Glasgow, as elsewhere, the masons wished to adopt the very latest varieties of form, and it is a surprise that so much unity is visible in the building.

It is about twenty years ago since Mr. Watson ascertained that during the progress of the choir, which occupied fifty years, five distinct varieties of vaulting were introduced in the lower church. In 1886 he explained the peculiarities in a course of lectures to the Glasgow Architectural Association, at a time when the members proposed to prepare a monograph on the cathedral; a work which, it is to be regretted, was never accomplished. The attention which Mr. Watson has since given to the building has confirmed his views. It should be remembered that the conditions under which the cathedral was erected did not correspond with those that prevail at the present day, although they were in keeping with the traditions of ecclesiasticism. For example, in Liverpool the selection of a site is not in any way determined by history; convenience and economy have most influence with the Bishop and his advisers. But in the old days certain sites were alone eligible for buildings of that class. In Glasgow the fact that St. Kentigern was buried on the right side of the altar of his church made the spot sacred. It was also probably owing to the presence of the saint's relics that the lower church was made so beautiful. Mr. Watson supposes that a small chapel in the crypt, which was constructed with stones that had formed part of Jocelin's church, was, during the early works at the present building, used as a temporary altar and tomb for the relics. On the completion of the vaulting the remains were likely to be removed to the middle of the crypt. It was the custom to preserve fragments of earlier buildings, and it is therefore not impossible that some of the stones of Jocelin's church are still to be seen.

It is, however, with the problems offered by the vaulting that Mr. Watson has most concern. He affirms that it was not the Pointed arch which was the chief factor in Gothic architecture, for "the real invention of the Middle Ages was the architectural system founded on the Pointed arch, a system due to the introduction of rib vaulting." But so important an arrangement could not be perfect on its first appearance. Vaulting, like everything else in architecture, has its history, in which progress is manifested by means of various modifications. Mr. Watson can show by the aid of his sections that the mouldings of the vaulting ribs differed from time to time, and in that way become indications of date. The changes are explained in his pages in a manner which will be plain to those students who cannot be expected to have a professional interest in the subject. With the help of Mr. Watson's analytical description Glasgow Cathedral will be found to be a standard exemplar of thirteenth-century Gothic. The ordinary reader will find that the development of vaulting is at least as interesting as any of the inquiries relating to the changes in species about which naturalists discourse.

What deserves most consideration is the middle compartment of the lower church. It is beautiful, regarded simply as a combination of vaults, and it is well adapted to envelop the richest shrine, but what adds to the interest is the circumstance that it could not be constructed in the form we now see if the original scheme had been adhered to. It is therefore manifest that in the middle of the thirteenth century the desire to possess what was newest was sufficient to compel the clergy to sacrifice convenience, and, we suppose, money also. As Mr. Watson says, there is no difficulty in imagining the architect as perplexed, for "the original plan of the middle vaulting, his own plan probably, is in his hand, and round him are the springer-stones of all the outer pillars and of the western wall, a considerable part of the early plan already carried into execution. . . . There was every inducement to follow at least the general lines of the early plan, varying only the mouldings and other details where that could be done conveniently; in ordinary circumstances perhaps no alternative course would have been considered."

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* *The Double Choir of Glasgow Cathedral*: A Study of Rib Vaulting. By T. L. Watson, F.R.I.B.A. (Glasgow: James Hedderwick & Sons.)

If it is asked why an important part of the vaulting should be left incomplete, Mr. Watson supplies an answer which has probability in its favour. As we have said before, the lower church is not like any ordinary English crypt, for it is from 20 to 30 feet above the ground level. The vaulting was not designed to sustain extraordinary loads, and although the Mediæval architects incurred risks in order to produce effects which would amaze onlookers, they could be as careful as any of their modern successors, who calculate the endurance of materials to a nicety. They may have discovered their safe loads in an empiric manner, but they could not be ignorant of the law that if a block of masonry fell from a height it was likely to do much more injury than several blocks of similar size heaped on vaulting. There was a risk that stones were likely to fall when constructing the upper church. The Mediæval scaffolding and plant were simple, and however careful were the operations they were not free from risks. The inference of Mr. Watson is as follows:—"Had the fact not been plainly demonstrated by the altered plan and later details of the middle vault, we might still have arrived at the conclusion that it must have been so by consideration of the constructive problem which the builders had to face. It is an obvious conclusion, therefore, that the middle vault was delayed in order to admit of the heavy material of the upper walls and pillars being directly hoisted into position from the level of the ground." Besides, to bring in materials it was necessary to have openings sufficiently wide to allow of the passage of a vehicle, which could not be accomplished if the cluster of pillars forming part of the middle compartment were completed. The difficulty to be overcome at Glasgow was unlike any which arose in southern buildings:—

> The constructive problem which the builders of our cathedral had to solve was altogether exceptional in respect that the choir consisted of an upper and lower church, the latter being arched over with light vaulting, and rising to a considerable height above the ground, and the former having a clerestory wholly within the aisle walls, in the construction of which comparatively large stones were employed. In the few existing under-buildings, or extensions of crypts, which date from the thirteenth century, such as those of Rochester and the lady chapel at Hereford, the problem of upper and lower aisles and clerestory does not occur, nor is it found in double chapels, such as St. Stephen's, Westminster, and Sainte-Chapelle, Paris. Neither was it encountered where a cathedral of the thirteenth century was constructed over an older crypt, with its heavy and solid vaulting, but little raised above the surrounding soil, and thus offering a convenient platform of construction. It may be pointed out that at Glasgow our positive knowledge of the fact that the middle vault was delayed is due to the circumstance that it was delayed long enough to allow the art of vaulting to develop in a marked degree, and that a new design in the later style was substituted for the earlier one. In any similar case that may exist, if the original design of the middle vault at the lower level has been carried out, it might be more difficult to determine with certainty whether its execution has been delayed or not. If the conditions otherwise were the same the presumption would be that it had been delayed for the same reason as that of Glasgow, but it would require careful examination to decide the point by direct evidence.

In the parts we have noticed Mr. Watson has to deal with the evidence afforded by actual masonry. His last chapters on "the superseded plan of the middle vault" are of another kind. As the title indicates, there is mainly probability as the guide. Some springers, it is true, still exist which may be according to the original plan of the middle vault, but it is not certain whether they are all in their original places. The manner in which Mr. Watson works out his conclusions has dialectic as well as architectural interest, and will afford a lesson to those who have to deal with archæological puzzles. One of his conclusions is that the lady chapel was not arranged in the position usually adopted, viz. to the east of the choir, but was placed in the lower church in the eastern section of the middle compartment beneath the high altar. There are several references to the altar, and no other position seemed to be so suitable.

Mr. Watson's volume is one of the most interesting additions to the literature on Gothic architecture which late years have produced. He has given double the prescribed nine years before he grappled with the subject in an exhaustive manner. Difficulties like those which he has faced can only be decided when there are illustrations of almost every inch of the cathedral. On that account Mr. Watson, no doubt, is eager to see the project of a monograph by local architectural students again taken up. Meanwhile some of the drawings prepared for that work are included in his volume, with many photographs which must have been taken with great difficulty. Mr. Watson evidently is not afraid of representations of details of the cathedral, and his important book will impart additional interest to the fine building which is now the sole representative of ancient architecture in Glasgow.

DOGMERSFIELD AND ODIHAM.*

The part of England which we have visited to-day was called by the Britons Gwent or Y Went. It was afterwards inhabited by the Regni and the Belgæ tribes, and it is believed to have been the first county that submitted to Cæsar. Six Roman stations were established in the county and a road running parallel with the Ikening Street was formed. By Cedric the Saxon the southern shore was subdued; the kingdom of Wessex was formed; and Hamtuncure, as the Saxons named Southampton, modernised into Hampshire, gave the title to the county.

The manor of Winchfield, or Wenesflet, as it was termed at the Domesday Survey, belonged to the Abbey of Chertsey. The church is dedicated to St. Mary the Virgin, and contains some Late Norman work of remarkable beauty. The south-west doorway is richly recessed, and of the chancel arch only one counterpart exists in England, and that is claimed by Oxfordshire. It consists of three receding arches ornamented with zigzag and other mouldings, while the archivolt contains a variation of the billet moulding of the greatest richness. The chancel is Early English, and contains on the north side a piscina on a small pilaster. At the restoration of the church in 1850 a new north aisle was built. At that time a series of frescoes was discovered: on the south side of the nave appeared the head of a queen of the fourteenth century; on the north wall, Christ walking on the sea; on the south wall, Lazarus and Dives, thirteenth-century work; and on the west wall, "The Last Judgment." The Rev. John Sanderson tells me that every effort was made to preserve them, but they gradually crumbled away and no trace of them now remains. The pulpit is elaborately carved and on the ledge bears date 1634. It is conjectured to have been carved by the same hand as the one at Odiham, though the addition of the head of Moses above the roll of the law suggests that this was the later work of the two. In the vestry there is a carved Jacobean chest, and under the tower is seen a much earlier one with three clasps. On the walls of the church there are several tablets to the Beauclerk family, the owners of Winchfield House. The tower is a square and massive one, and outside, on the upper part of the lower storey, some flowing curves are seen, which are supposed to represent a dragon. There is a label moulding running beneath believed to date from 1160. The register dates from 1662. The living is a rectory, in the gift of Sir Henry St. John Mildmay, of Dogmersfield Park.

I am not aware that any attempt has ever been made to write a history of Dogmersfield. In the County Guides it is naturally mentioned, but the historians of Hampshire, to which I have been able to refer, make merely occasional references to it; yet it dates back at least to the days of our Saxon forefathers, and the passage from the Domesday Book, as given by the Rev. C. Holme, M A., sometime curate of Greywell, I will transcribe:—"In Edefel Hundrede, Hugo, surnamed Barbatus, or with a large beard, holds Omersfelt of the king. Suein held it allodially of King Edward. It was then assessed at 5 hides, it is now assessed at nothing. Here are 6 plough lands; the plough land is in demesne; and 10 villagers and 8 borderers employ 3 ploughs. Here is a church and 1 servant; and a mill, which pays 6 shillings and sixpence; and 5 acres of medow. The woods furnish 100 hogs; it is worth 100 shillings."

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* A paper read by Mr. Stanley at Winchfield on June 15, before the members of the Upper Norwood Athenæum.

As the word allodial may fall strangely on the ear, I may be pardoned for stating that it signifies the absolute ownership of the land, free from rent or service of any kind. The word omersfelt is regarded as having reference to a mere, now perhaps represented by the lake, and to the clearing made by the felling of the timber.

On the north side of the chancel arch of Odiham Church a brass of a priest is seen. The inscription runs:—"Here lies William Goode, formerly vicar of Ponteland, in Northumbria, and rector of Dogmersfield, who died September 11, A.D. 1498, on whose soul may God have mercy. Amen." The old church of Dogmersfield, dedicated to All Saints, that stood in front of the house, lasted until 1809, when a new church was erected near Flood's Farm. Being some little distance from the village complaints were made, and to meet the wishes of the inhabitants a third church was erected in the main street, in the Early English style, in 1842, and the second church is a picturesque ruin in the park. The Rev. Carew St. John Mildmay, writing in the Odiham parish magazine, told how Bishop Sumner refused to consecrate the church while a representation of the Virgin Mary remained in the east window; so the offending glass was accordingly removed, and the figure of St. Luke was substituted.

In the early part of the twelfth century Dogmersfield became an episcopal residence, Henry I. having granted it to the Bishop of Bath. It remained the property of the see of Bath and Wells until 1548, when it was alienated by Bishop Barlow. A chapel was attached to the palace, which may have been the parish church, and there on Passion Sunday and the Eve of Easter Day the Bishop of Bath conferred Holy Orders, by sanction of the Bishop of Winchester. In 1190 Jocelyn Fitz Jocelyn died at the palace. In the previous year he had been translated to Canterbury, and to this incident is due the error of associating Dogmersfield with the see of Canterbury. The Rev. C. Wilks, in his history of Hampshire, mentions that on June 25, 1207, King John went to Dogmersfield after leaving Odiham; and that in 1235, in the reign of Henry III., the Bishop of Bath and Wells obtained a charter for three acres of land at Odiham to throw into his park of Dogmersfield Readers of Agnes Strickland's "Lives of the Queens of England" are familiar with the story of how Prince Arthur first met Catherine of Aragon at Dogmersfield Palace in November 1501. The Spanish Infanta, Katalina, and the young Prince of Wales had been betrothed by proxy, and according to the etiquette of the Spanish Court they were not to look upon each other's faces until they stood at the altar. Henry VII., however, made his way to Dogmersfield with his son, and by the aid of the Bishop and Council he succeeded in overruling the objections of the Spanish archbishop and nobles, and the young people met and feasting and dancing followed. Five months after their marriage Prince Arthur died, and seven years later the Princess became the wife of Prince Henry, afterwards Henry VIII. At the Reformation Dogmersfield was granted to Sir Thomas Wriothesley, afterwards Earl of Southampton, and by his heir it was sold to Mr. Edward Goodyer, an ancestor of the Mildmay family, who died in 1686. A later owner was Ellis Mewe, who on his marriage with Frances St. John, assumed the family name of his wife, and in 1790 his grandson took that of Mildmay. The present owner, Major Sir Henry Bouverie Paulet St. John Mildmay, Baronet, like the thirteenth-century bishop, has succeeded in extending his park, and instead of the 700 acres of which it consisted half a century ago, it now comprises about 2,000 acres The lineage of the family is traced back in Burke to Hugh de Mildmé, who flourished in the reign of King Stephen, and the name of the Norman chieftain, William de St. John, is inscribed on the roll at Battle Abbey. The motto of the house is "Alla Ta Hara," believed to be a war cry of the Saracens, and may be translated "God is my help." Part of the palace was allowed to fall into decay, and the remainder was included in the present mansion. Here came George IV. when Prince of Wales, and the room he occupied is still known as the Prince's Room. Paintings of the Italian, Venetian and Flemish schools and historic portraits adorn the chief rooms. In the drawing-room, with its beautifully carved mantelpiece of white Florence marble, there are pictures by Dutch and Italian painters. In the dining-room we see a portrait of Sir Henry Mildmay, of 1635, to whom the First Charles gave four portraits—James I, by Rubens; Villiers, Duke of Buckingham, by Cornelius Jansen; Sir Thomas Vere, Lord Tilbury, by Jansen; and Gustavus Adolphus, which still hang at Dogmersfield. In the same room there is a full-length portrait of Prince Rupert, by Sir Peter Lely; in the breakfast-room are four views in Venice and two in Rome, by Canaletti, and the Supper at Emmaus, by Bossano, and here hangs a charming little roadside scene, painted by the present owner of the house Elsewhere in the stately rooms are seen the Head of a Girl (the one he loved), by Rembrandt, and an Old Man's Head, by the same artist; a landscape, small but of great beauty, by Claude Lorraine; Froberus, by Holbein; Child and Bird, by Lindo; the Oyster Girl, by Mieris (from the Orleans Gallery); Christ and the Centurion, by Paul Veronese; Carpenter's Family, by Mieris, jun; Village Musician, by Teniers; a portrait of Teniers, by his son; the Holy Family, by M. A. da Caravaggio; Bacchanalians, by Titian; Belshazzar's Feast, by old Franks; a cattle piece, by Cuyp; a variety of figure landscapes, by Bergham, Both, A. Van de Velde and Pynaker; Bacchanalians, by Nicholas Poussin; a seascape, by W. Van de Velde; portraits of Teniers, wife and child, by himself; the head of Rubens, by Vandyke; Erasmus, by Holbein; the interior of a church, by P. Neefs; two views of the Thames, by Scott; and portraits of Helena, Lady Mildmay, and her child, by Hoppner. In the library, beside its splendid collection of 5,000 volumes, many of which are topographical, there is an Italian marble vase of great beauty, a bust of Pitt (by Nollekens), relics from Egypt, bronze dishes dated 1530, and a splendid collection of valuable china are among the art treasures of the house. An iron grate at Dogmersfield was from an old house at North Warnborough. It is dated 1630, has a crown at the top, and is marked with the letters "R. L" There is little doubt that it came from Odiham Castle, and belonged to the son of the first Earl Sidney, who became Earl of Leicester in 1603.

Odiham is first mentioned in the survey of 1084; it was then a Royal demesne and had two churches; the second one is believed to be St. Mary the Virgin at Greywell, which is now united with Odiham. The name Odiham is supposed to mean the woody town. The present vicar, the Rev. W. H Windle, M.A., has compiled a list of the rectors and vicars of Odiham, from which we learn that in 1309 William de Bosco was rector, and in 1310 Roger de Knaploft was vicar, for here, as at many other churches in the good old days, there was a rector, who probably pocketed the fees, and a vicar who did the work. By Henry II. the Rectory was granted to the Canons of Salisbury as an endowment for their chancellor, with whom it remained till about fifty years ago, when the patronage was transferred to the see of Winchester. The church, which is dedicated to All Saints, is mainly of thirteenth and fifteenth-century work. The tower is an interesting example of Tudor brickwork. The building was repaired in 1836; the chancel was restored in 1851, and recently 1,100*l.* have been expended on the exterior. Various brasses are now preserved on the north side of the chancel arch and on the north wall of the adjoining chapel. The pulpit is a beautiful specimen of carved wood of the time of Charles II. Under the tower the Royal arms, dated 1660, are seen, and a churchwardens' chest is also stored there bearing the date 1662 in nails. The small gallery at the west end is supported on wooden columns, which have been covered with cement in imitation of stone. The twelfth-century font has a small indented projection from the rim, the use of which still remains a puzzle to the antiquary. In the days of baptism by immersion it would scarcely have been formed to catch the water as it fell from the child's forehead. When anointing with holy oil was a sacrament of the Church a chrismal would hardly have been attached to a font, when it might accidentally be flushed with water, and there is no probability of its having been used as a receptacle for incense. The more reasonable suggestion seems that it was connected with a hinge or support for the font cover; the acute angles of the aperture and the perforations at the ends certainly suggest this solution of the problem. The projection to the Youlgreave font is more in the form of a bowl, and the suggestion of the Rev Dr. J. Charles Cox that it was a holy-water stoup is worthy of consideration. A coincidence only, but worthy of note, is the fact that in the inscription round the Odiham font the Saracenic war cry is virtually repeated.

The old palace of the kings of Wessex is now represented by the Palace Gate or Place Gate Farm. Of the later building, where Queen Elizabeth twice stayed during her progresses, little remains above ground, and the lower chambers were concreted over a few years ago. The present house was built of materials from the palace, and at the entrance to the cellar there are some stones with heads carved upon them. A barn and a hall associated with the palace are still standing, and the fishponds are easily traced. A Tudor wall running along the farm has a series of triangular-headed openings through it like those at Well Hall.

Odiham Castle, which is virtually in North Warnborough, was built on the bank of the Warn bourne, but when and by whom is not known. It is popularly spoken of as King John's Castle, although it was erected before his time All that is left to-day is the broken shell of the octagonal keep, standing on an acre of land formerly enclosed by a moat, of which the trenches remain. King John was frequently at Odiham, and on May 29, 1215, he wrote to the Pope stating that the contumacy of his barons prevented him going to the Holy Land. From Odiham he journeyed to Runnymede, where he signed Magna Charta. In 1216 the castle was gallantly defended for fifteen days by three officers and ten soldiers, who were attacked by Louis the Dauphin of France. During the siege they sallied out and made prisoners of three officers and three soldiers, but eventually they were compelled to surrender, and in acknowledgment of their bravery the Dauphin gave them their freedom with their horses and arms. Almost as interesting as the Siege of Mafeking is the story as told by Matthew Paris. In 1237 Henry III. granted the castle to his sister, the Countess of Pembroke, and in 1247 she received a grant of the manor on her marriage with Simon de Montfort, Earl of Leicester. She was evidently a very methodical housewife, and during her retreat at the castle she kept a minute record of the quantities of pepper and other commodities she purchased. One of these accounts made on a roll of parchment 20 feet long was found in a French monastery, and is now in the British Museum. By Edward I. the castle was settled on Queen Margaret; it was then valued at sixty pounds. By Edward III. it was leased to Sir B. Brocas at a yearly rental of five pounds, and it was during the third Edward's reign that it became the prison of David Bruce, king of Scotland, who was captured at the battle of Neville's Cross. He remained there for eleven years, when he was liberated on the payment of 100,000 marks. By Henry IV. the castle was granted to Lord Beaumont for life, and Margaret, queen of Henry VI., received it as a marriage portion. In the reign of Richard III., Richard Hansard was appointed constable and porter of the castle for the term of his life. By James I. it was bestowed on Edward Lord Zouch, and about 125 years ago it was purchased out of the Court of Chancery by Sir Paulet St. John, the grandfather of the present owner, Sir Henry St. John Mildmay.

I should have liked to have written of the old-world village of Dogmersfield, where every cottage would form a subject for the painter, and of the little rectory, where the Rev. Charles Dyson was visited by Keble and other Oxford men, and of how most of the Oxford tracts were read there before they were published; and I should have liked to have told how the kindly lord of the manor, Sir Henry Mildmay, has beautified the district by his love of arboriculture, and how by his own hands arid plains and barren wastes are being converted into luxuriant woods, but editors are inexorable, and I must stay my pen. But ere I do so I tender my most grateful thanks to Sir Henry St. John Mildmay, baronet; to Mr. Waldron; to the Rev. John Sanderson, and to the Rev. W. H. Windle for the great courtesy that has been shown us to-day; to Mr. Harradence I am also indebted for aid given me in the compilation of my paper, and to you, gentlemen, my acknowledgments are due for the support you have so kindly given me.

The photograph of the chancel arch in Winchfield Church was kindly supplied by Mr. P. R. Palmer, of Hartley Wintney.

CROYDON.

MANY of the members of the Surrey Archæological Society lately visited Croydon, where, at Whitgift's Hospital of the Holy Trinity, Dr. Hobson read a paper in which he pointed out that Whitgift's Hospital, which was opened in 1599, was in keeping with several similar institutions of its date, and in historical continuity with the institutions of the time. He said that in 1048 the Benedictine monks established a hospital in Jerusalem. St. John was the patron; the order early became a military one; they increased in numbers, and were known as the Monks of St John of Jerusalem. They had similar institutions in Canterbury, and a remarkable one in Harbledown, at which was preserved a relic, a fragment of a shoe worn by Thomas à Becket. The St. John Ambulance Association of to-day occupies the quarters of a former settlement of these monks. St. Catherine's, in Regent's Park, owing to the help of Catherine of Aragon, survived the Dissolution; St. Thomas's Hospital, though dissolved at the Dissolution, was restored by Edward VI. St. Bartholomew's Hospital, near Sandwich, is similar in many respects to Whitgift's Hospital, as is the Hospital of St. Cross. These and all other similar institutions were founded for the twofold purpose of chanting masses for the souls of the founder and his relatives, and the provision of comfort for the poor. They were distinctly ecclesiastical, consequently the XXI. Statutes made by Archbishop Whitgift are preserved at Lambeth, from which we learn that he bought the site "on the roadway to London," that the hospital was begun in 1596 and opened in 1599, and the school-house in 1600, at a cost of 2,116*l.* It was incorporated as the Warden and Corporation of Holy Trinity in Croydon. The deed of charter of incorporation, which is in English and beautifully preserved, was shown; the names of the first warden and brethren are given. The building is quadrangular, with inner and outer gatehouses. The latter opens into the street; the school-houses now demolished stood in the rear. The structure is of brick in English bond; freestone has been used in the gates and mullions; only one original chimney remains, all the others are modern. The arches of the inner door and the inner side of the outer are of debased Tudor; the other arch is rounded. The audience chamber is well preserved; three ancient chests, in which the charter and the money was kept, are also to be seen. There is some stained heraldic glass also. The party next visited the church, where Mr. J. Corbet Anderson described the structure. The date of its origin is lost in antiquity. Formerly the site was surrounded by streams, which supplied the fish ponds, and joined to form the river Wandle. A hundred years ago trout had been caught close to the church, but now all trace of these streams has disappeared. The church is dedicated to St. John the Baptist. Before churches were built it was customary for the Christian missionaries to baptize in streams, and this was the probable origin of the church. 962 A.D. is the first date at which a church is believed to have existed, for at that date Ælfleis, who witnessed the will of Beorhtric, is described as "a priest of Crogdœne, in the reign of Edgar." In Domesday Book, in 1080, we are told "here is a church." The structure was probably more than once rebuilt, but in the night of January 5, 1867, owing to the overheating of a stove, a beam 35 feet above caught fire, and the whole structure was destroyed. In rebuilding it, portions of stone were discovered bearing work which showed that they had formed part of a much earlier building of late Norman era. These were carefully built into the walls of the present church, which was rebuilt from designs by Sir Gilbert Scott in 1870, the plan of the original church being exactly followed. The height has been increased; the greater portion of the original tower was preserved and much of the walls; but the ancient monuments were all destroyed. The tomb of Archbishop Whitgift has been restored. After the fire the ground plan of a more ancient house of prayer which had occupied the same site could be distinctly traced. As each successive alteration had been made in the character of the structure the old walls had been merely pierced or taken down to the required level, but the ancient foundations had been religiously preserved. It is certain that before the fire the walls of Croydon Church had been thrice pierced for windows, and the presumption is that this succession of lights exhibited a design in harmony with the general character which the fabric bore at the respective dates of their insertion, whether this occurred during the Late Norman, Early English, Decorated or Perpendicular periods. Far beneath an elevation reached by the roof of the late church, traces of a former roof of the nave were discovered on the back of the tower; a roof of low pitch, some of its lead remaining embedded in the mass of the wall, shows that the upper portion of the tower was reared upon it. From the rude and apparently ancient piscina found in the south wall, it is concluded that an altar once stood there; near the south door, and also near the north door, are holy-water stoups. From these not being in the porches but in the church, it is inferred that originally there was neither a south nor a north porch. It is conjectured that the work of converting Croydon Church into a Perpendicular fabric was commenced by Archbishop Courtenay, from the circumstance of the arms of that prelate (or three torteaux) having formerly been affixed to the north entrance, and for a similar reason the date of its completion is assigned to the days of Archbishop Chicheley, whose arms (argent, a chevron between three cinque foils, gules) were carved at the side of the western or principal entrance. The Perpendicular style of architecture exhibited by the late structure attained its purest development towards the end of the fourteenth and early part of the fifteenth centuries, exactly the period that embraces the archiepiscopates of the alleged rearers of the fabric. When the church was cleaned in 1844 a distemper painting was discovered on the south wall, representing St. Christopher. The living was formerly a rectory and a vicarage, but is now a vicarage only, and is within the jurisdiction of the Archbishop of Canterbury. The list of rectors begins with Ægidius de Dudenardo, in 1282. The learned Richard de Bury, author of the "Philobiblon," was presented to this rectory by King Edward III. In 1390 the church was appropriated to the convent of St. Saviour, Bermondsey, after which it continued only a vicarage. At the dissolution of the convent in 1538, the rectory falling to the Crown, King Edward III. granted it to two laymen, among whose descendants it has continued; but the advowson of the vicarage reverted to the see of Canterbury. Among the bishops known to have been consecrated in this church may be mentioned Myles Coverdale. Consecrated Bishop of Exeter by Archbishop Cranmer, he translated the first entire Bible printed in the English language. There were formerly two chantries, one to St. Mary and the other to St. Nicholas, in the church.

At the old palace Mr. Corbet Anderson again acted as guide, and read a paper on the structure and history of the building and its occupants. Domesday Book informs us that when William the Conqueror's Commissioners visited these parts they found Archbishop Lanfranc in possession of the manor of Croydon. As a rule Domesday Book gives the name of the Saxon owner of the manor. Archbishop Lanfranc having received from King William a certain quantity of land, he sublet it among inferior tenants holding under him. There is, however, no record of his having had any building here or place of assembly for those tenants. Previous to its partial demolition, Croydon Palace consisted of one large square court or quadrangle, containing a chapel, a hall, a buttery and kitchen with other necessary apartments and a long gallery. The east and west sides of the great court are said to have presented very early examples of building, being built entirely of bricks, but these have long since disappeared. The great hall of stone is 56 feet long by 38 feet wide; it is believed to have been built by Archbishop Stafford, from his armorial bearings appearing upon the beams in the roof. This apartment for centuries continued to be the great hall, banqueting and council chamber of the Archbishops of Canterbury, and in days when the lord of the manor of Croydon combined in his own person the position of a prince of the church with that of chancellor or chief political adviser to the monarch, many stirring incidents were enacted within its walls. The guard-chamber, built partly of stone and partly of brick, 50 feet by 22, was formerly a noble apartment; it was built by Archbishop Arundel. The long gallery forms part of the south front; it was rebuilt by Wake on the site of the ancient long gallery. Sir Christopher Hatton was appointed Lord Chancellor and received the great seal in this long gallery on April 29, 1587. The chapel in the manor of Croydon is first mentioned in 1283; there was probably more than one intended for public and private use. The principal one occupied the site of the present one in which the archæologists assembled; it contains a quaint gallery, the primate's seat, and the benches bear knobs carved with Laud's arms at the west end of the church; the east end benches are adorned with the arms of Archbishop Juxon. Of the bishops known to have been consecrated in this chapel, the two earliest were consecrated by Archbishop Cranmer and Nicholas Ridley, Bishop of London, both of whom were present together here. Here James I. of Scotland was detained a prisoner under Archbishop Arundel. There were other prisoners, notably the Lollards, who were confined in dungeons beneath. Of the Primates who have lived here may be mentioned Kilwardby, who placed the crown on the head of Edward I., and Reynolds, who obtained a grant of a market for Croydon on Thursdays, was tutor to Edward II.; he also lived here, and held the Great Seal in 1314, the year of the battle of Bannockburn. Here also lived Archbishop Sudbury, who was beheaded by Wat Tyler's mob on Tower Hill. The great Archbishop Courtenay also lived here; he cited Wycliff to appear before him, and made many alterations in Croydon Church. Arundel, who erected the guard chamber of this palace, in concert with Bolingbroke, overthrew Richard II., and Bolingbroke became king as Henry IV. Chicheley, originally a shepherd boy, educated by William of Wykeham, became Archhbishop of Canterbury, and resided much here; he was the friend and adviser of Henry V., the conqueror of Agincourt. His principal work was the founding of All Souls, Oxford. Archbishop Stafford, who built the great hall, held the Great Seal, *i.e.* was Lord Chancellor, for eighteen years uninterruptedly; his personal bravery in the insurrection of Jack Cade rendered great service to the country. Archbishop Kemp was the mainstay of the Lancastrians, and most of his acts are dated from Croydon or Lambeth; he discharged the united duties of Archbishop of Canterbury and Lord Chancellor until his death. Archbishop Bouchier, who lived here, placed the crown upon the head of Edward IV.; he also officiated at the coronation of Richard III., and afterwards placed the crown upon the head of his successful rival, Henry Tudor, Earl of Richmond, who became Henry VII., and he united in marriage Henry VII. and Elizabeth, the representatives of the White and Red Roses: as Bouchier on his mother's side was a great-grandson of Edward III., he warmly supported the House of York. Archbishop Morton occasionally lived here; he was staunch to Henry VI.; he was in the bitter field of Towton, on Palm Sunday, 1461, when 40,000 Englishmen lost their lives fighting one against the other under the opposite banners of the Red and White Rose. He it was who, along with Buckingham, planned the sagacious design of raising Henry Tudor, Earl of Richmond, to the throne, and of uniting the rival factions of York and Lancaster by the marriage of the Earl with Elizabeth, daughter of the late King Edward. Archbishop Warham dwelt here also; he officiated at the marriage and subsequent coronation of Henry VIII. and Queen Katherine. Cranmer also lived here, and it was from Croydon Palace that he was summoned to the deathbed of Henry VIII, and he officiated at the coronation of Edward VI. Archbishop Parker lived here; in 1573 he received Queen Elizabeth here from her palace at Greenwich; with all her train she stayed here for seven days. From 1640-60, during the Commonwealth, Croydon Palace was not occupied by the Church dignitaries, but was leased, first to Charles, Earl of Nottingham, and afterwards to Sir William Brereton; but after the Restoration Archbishop Juxon, who had attended Charles I. on the scaffold, restored the chapel and lived here. Archbishops Wake, Herring and Hutton also resided here. In 1780, however, the palace with its gardens, &c., was sold for 2,500*l*, and soon the work of destruction began.

NOTES AND COMMENTS.

The difficulties of the law of copyright, if it can be supposed to have any relation with examples of ancient work, were revealed in a case which was heard a week ago in Paris. The Comte de Brouville is the possessor of some old Aubusson tapestries which he prizes because they are thought to be unique. He was, therefore, surprised when he saw in a shop in Paris a room which was hung with identical pieces. He at once came to the conclusion that they had been copied from his property, for on one occasion he confided his tapestry to the owner of the shop for reparation. He sent a legal demand for the withdrawal of the copies and for the prohibition of the sale, on the ground that his property was diminished in value through the existence of the copies. The judges in the French court where the case was tried said it was incontestable that there was property in artistic work, however old, and an owner could refuse to approve of its reproduction; but while admitting the identity of the subjects it was maintained that the Comte de Brouville had not proved that the copies were taken from his tapestries. It was also uncertain whether he was the possessor of the only set of that design which had been produced at Aubusson. The case shows the facilities which Paris possesses for imitating works of art with expedition, and it is well known that experts can be deceived by the copies.

A committee has recently been appointed by the Institution of Civil Engineers, with the support of the Institutions of Mechanical Engineers and Naval Architects and of the Iron and Steel Institute, to consider the advisability of standardising the various kinds of iron and steel sections, and if found advisable then to consider and report as to the steps which should be taken to carry such standardisation into practice. Evidence has been already given on the subject by various engineers, manufacturers and shipbuilders. The committee consists of the President and other members of the Institution of Civil Engineers, and we have no doubt they will be able to obtain much valuable information, and the recommendations will be adopted in the English and foreign rolling mills. It is remarkable that no architect's name is to be found in the list. The committee might have easily discovered that the largest quantity of steel joists used in this country will be found in buildings. More complaints have been heard from architects about the remarkable variety of sections produced by manufacturers of steel than from either civil engineers or shipbuilders. Very slight differences in the height or width of joists make it necessary to enter into calculations of strength, and the labour could be avoided if more uniformity prevailed.

An interesting brochure has appeared which is entitled, "Gillow's: a Record of a Furnishing Firm during Two Centuries." There is so much that is variable in the fashions of furniture, it requires more than ordinary business qualities to give endurance to a manufactory for so long a period. But Robert Gillow, the founder of the establishment, was a veritable leader of industry, and his spirit still animates the manufacturing and administrative departments. He was a country carpenter and joiner, and about 1695 he started in Lancaster. His account books testify that he was an honest man, whose charges were moderate. His own time he valued at 9*s.* a week. For a back-board and covering for a young lady he charged 6*d.*, and for putting a handle to a fork 2*d.* The smallest job was acceptable. In the middle of the eighteenth century Lancaster secured a profitable export trade in which he shared. Robert Gillow had three sons, and they were employed in the business. The eldest was taken into partnership, and the firm enlarged their operations by practising as architects and surveyors. Then about 1765 land was acquired in Oxford Street on the site of the existing showrooms, and the London business was established. But Lancaster was always considered to be the industrial centre from which the most important works were to be despatched. The reputation of the firm for beautiful and enduring furniture was early acquired, and skilled draughtsmen must have been among the employés. The earliest billiard-tables came from Gillow's. The history of the firm would be almost a history of furniture. In later times the operations have been further enlarged, and now comprise all varieties of decoration. Indeed, it would be difficult to say what work relating to houses and other buildings is beyond the capabilities of Gillow's. The illustrations in the Record suggest the skill and good taste which have marked the efforts of the successive proprietors, and gained for them a well-merited success.

It is believed by many travellers that Paris possesses more statues of celebrities than any other city. But it is now claimed that Paris is surpassed by Berlin. The German capital possesses seventy-two official memorials, for not much value is attached to those which are erected by private subscriptions. The statue of Bismarck lately unveiled is the third memorial of a statesman. There are twelve of princes, eleven of military commanders. Incredible as it may sound, there are nine statues of architects. The scholars have also nine, the poets ten, physicians three, politicians two, and the remainder are devoted to various personalities. There is only one figure of a musician, but it is expected that statues of Wagner, Haydn, Mozart and Beethoven will shortly be set up. Memorials of the Kaiser Frederick, Moltke, and Fichte, the philosopher, are also contemplated.

ILLUSTRATIONS.

CATHEDRAL SERIES.—YORK MINSTER: THE CHAPTER-HOUSE DOOR. DETAILS IN CHAPTER-HOUSE.

CARDIFF SYNAGOGUE.

This synagogue occupies a site in the Cathedral Road upon the estate of the Marquis of Bute. The present structure accommodates 241 men on the ground floor and 158 women in the gallery. A provision has been made for extending the building, when required, at the west end, so that it may accommodate a further 191 men on the ground floor and a further 166 women in the gallery. Space has also been reserved for erecting in the future classrooms and residences for the officials. The apse containing the ark is placed at the same end of the building as the main street entrance, this being the only method of securing the necessary eastern aspect for the ark. The reading desk and pulpit are grouped at the same end of the building as the ark, behind which, enclosed by brass grilles, is the choir, while behind the choir is the main vestibule leading to the ground-floor lobbies and to the two octagonal buildings containing the staircases; on both the ground-floor and gallery levels cloak-room accommodation is provided. The apse is covered by a panelled half-dome. The ark is semicircular on plan, and is superimposed by a half-domical roof with a low-level clerestory over. The external elevation has been dictated by the form of the plan. The main façade next Cathedral Road consists of a projecting porch superimposed by the apse, at the rear of which rises the gable of the nave. On either side of the porch are the two octagonal towers containing the staircases, connected with the porch by low-level structures, which also contain the cloak-rooms. The octagonal towers have domical roofs, and the apse has a half-domical roof. The side elevations comprise the two-storey aisles, rising above which are the clerestories of the nave, lighted by semicircular windows. The whole of the elevations have been carried out in Blue Pennant stone, with Bath stone dressings. The building is heated by hot air, and lighted by electricity. The synagogue has been carried out from the designs of Mr. Delissa Joseph, F.R.I.B.A., architect, of London.

CITY OF BRADFORD CARTWRIGHT MEMORIAL HALL AND ART GALLERY.

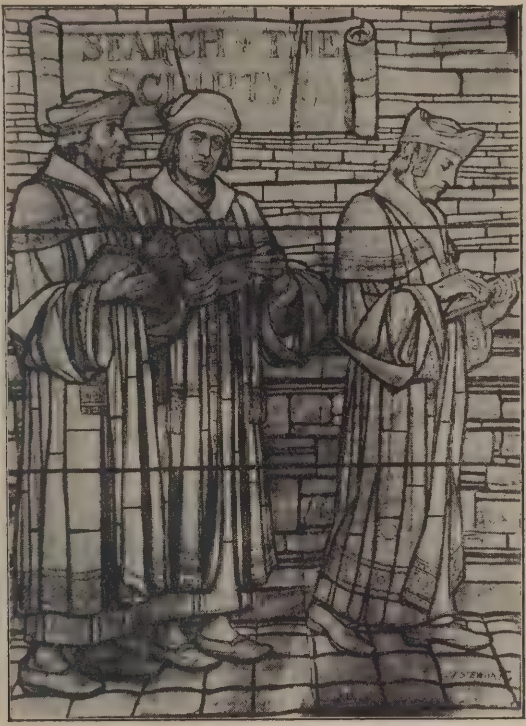
This design was submitted in the competition of 1899. The intention was to express the purpose of the building, which, as it was to contain valuable works of art, should aim at style. The author is Mr. J. H. Cook, of Liverpool.

HOUSE, ALDERLEY EDGE, CHESHIRE.

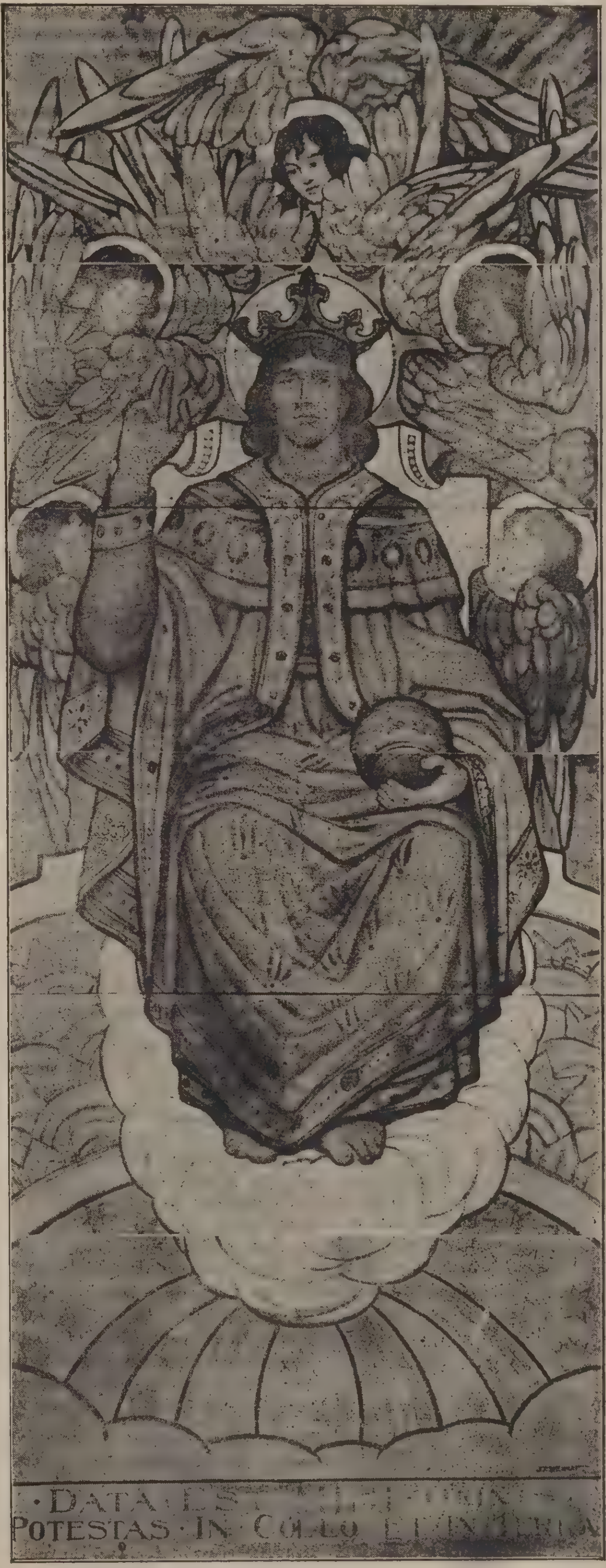
GLASS STAINING AND WALL DECORATION.

THE modern stained-glass windows in Glasgow Cathedral are as unsatisfactory examples as can be discovered in any country. Their defects, however, have suggested what is desirable, and in consequence excellent stained glass is now produced in the city. Among the windows which are to be seen in the International Exhibition, we give illustrations of two which are interesting as evidence of efforts to strike out a new course instead of adopting a stereotyped and less difficult treatment. They are produced by Messrs. W. Meikle & Sons, of Glasgow.

The first will be found on the staircase leading to the Recreation Room, immediately to the west of the dome. The subject is "Search the Scriptures." The figures or ornament of a window should impede as little as possible the transmission of light, and with such a subject dark colours, however rich, cease to be symbolic. Accordingly the window is treated in white and delicately tinted glass of different textures. It depends for its effect on the combination of good outline in design, emphasised by the massing of light and shade of the varied texture glasses. It recalls the firmness and quaintness of the Holbein school, and the general verticality of the lines in the robes shows a perception of what is required to bring decoration into relation with architecture.



The second window is over the French section, and it can hardly fail to gratify the exacting demands of French designers, for it shows a correspondence between means and ends which they are competent to appreciate. As will be seen from the illustration, the main features of the design are expressed by means of the lead lines. As befits the scene, the colouring is full and rich. The glasses used are of very fine quality, having been specially made for this window. They are beautifully streaked and splashed with varied colours, and, when cut to the shapes required, form a pure mosaic without surface-painting, thereby gaining great brilliancy and purity of colour.



The figure is clothed in greenish silver and gold diapered armour, with a deep blue purple cloak. The wings run from deep red, through ruby, to red orange. The dragon colours are from deep blue green to light green, and the background of the work is splashed royal blue glass.

The third illustration exemplifies the use of a new vitreous material invented by Messrs. Meikle & Sons, and known as "Verresco." It is permanent, and has the effect of fresco. Another advantage is the absence of gloss. Verresco is adapted, like tiles, to the decoration of wall spaces, whether large or small, and of any form. Owing to the absence of a commonplace character, which is not always to be found in new decorative material, it is especially suited for church work. If used for memorials it does not distract the eye, nor make incongruous patches on a wall. All artists who have been able to judge Verresco have expressed a belief in its future. The subject illustrated is "Christ Seated in Glory." By itself the picture is sufficient to denote the capabilities of the new aid to decoration. The colour scheme is rich but subdued, and the work most carefully finished in detail, the diaper and other points being decorated in dull and bright gold. It will be found on the north wall of the Industrial Hall. The examples testify to the spirit which is now found in Glasgow, and which is sure to produce remarkable results.

NORWICH CATHEDRAL.

The Dean of Norwich (Dr. William Lefroy) has issued the following statement:—The end of the past week witnessed the accomplishment of a great work, viz. the complete reparation of the interior and the exterior of Norwich Cathedral; the restoration of the cloister, one of the most precious types of varied styles of architecture in Europe; and the erection of an organ which for volume of sound, for sweetness, for tonal equality, and for variety of instrumentation has no superior in England.

To be permitted to perfect any one of these three large sections of restoration is a great privilege. To have been enabled to accomplish all may well deepen humility as well as gratitude to the Author and Giver of all good things, and to the hundreds of sympathetic supporters on whose generosity I relied, generosity which has never failed me through more than ten years of outlay, of appeal and of response. Nor can I allow one week, after the completion of the work, to pass without offering to them the heartfelt thanks of a grateful man.

In 1893, at the Guildhall, I asked the public for 5,000*l.* In 1901, I thank them for giving me nearly four times that sum, including the amount spent before the Guildhall meeting. More, there are men now in the invisible world and also here in Norwich still, whose liberality I have dared to decline. There are those in this city whose unsolicited munificence has amazed and encouraged me. Nearly all the money has been raised by personal solicitation. The Chapter asked me to draw up a statement. This they approved and this they had printed, but nearly every copy of it is now in my library. The work was done by visiting, constant and careful. It never would have been done by circular appeal. I have visited houses large and houses small in Norfolk, in Suffolk and in other places. I have been allowed to state my case with patience, with consideration, with interest and by all classes. Those who declined to help numbered but seven. These were one wharfinger, two lawyers, one brewer, one publican and two peers. As I estimate the sum with which I was entrusted I recall the words of my aged colleague, Canon Heaviside. In 1890 he said to me, when I told him I was determined to restore the cathedral, "I would not give you 250*l.* for all you'll get." In a few weeks after that I went to see him, and announced that Colonel Mansel had promised me 500*l.* This was the beginning of the work now concluded. As I see that work now done, I recall the words of the late Archdeacon Nevill, spoken within the close of the year of my arrival, 1889. We were chatting in the vestry before evensong in the December of that to me eventful time. I was deploring the dilapidation and the dirt which abounded. I well remember saying to him that I would rather return to Liverpool, with its strain, its sleeplessness, and its exhausting activities than retain the deanery and the cathedral in its then state. I had barely closed my bitter sentence when the chimes for five o'clock rang out. As we ascended the vestry steps the good Archdeacon looked back, and turning his kindly face, smiling over his shoulder toward me, he said, "Ah, Mr. Dean, you'll not be here long till you learn to acquiesce in the inevitable." The procession moved. My moral nature was on fire. "Inevitable!" There is nothing inevitable but God and good. But to that strange sentence and to the fire it lighted in my heart the reparation of the cathedral is due. In all that was done no one took a keener interest than the Archdeacon, mainly because all was done in patience and in conformity with the spirit of the ancient founder and builders. Canon Heaviside—with his kindly heart, his masculine shrewdness, and his strong common sense—allowed his mind to rest in cheerful confidence. This I won in a simple way. He dreaded alike my resolution, the largeness of the scheme, and the scant help I would receive, owing to agricultural depression. But his dread was dispelled when I told him that I had a fundamental principle, from which I would not swerve. I never ordered a shilling's worth of work till I had the shilling. This is an article of works rather than an article of faith. But it is my creed. To it may I not attribute the peace I have all along enjoyed? The work is done. There is no debt in any department of it.

This leads me to revive a somewhat painful memory. We agreed to consult one of the greatest architects in England, now at rest. I pressed his fame, his learning, his experience upon my colleagues, three of whom are now no more, and with the only survivor of that body I gratefully add I have never had one differing word. But the architect was engaged to survey the cathedral and to report. That report we received, and upon it, so far as we considered it right, we acted. In an interesting conversation with that eminent man, I remember the earnestness with which he advocated the erection of a reredos. "The great length of your cathedral makes its narrowness a defect, and renders the elevation of the east end a necessity. Elevate the altar, erect a suitable reredos, and you overcome the defect and impart dignity." "But," I argued, "your imparted dignity is at the cost of history. Behind the holy table is the ancient sedes of the Norman bishop, facing west. This is a treasure not possessed by any English cathedral. I am not prepared to erect a modern reredos either to obscure it, or to be as a tombstone to an ancient episcopal seat. It is not dignity to disparage the history of centuries. It is destruction, and I shall never consent to it." Then was suggested the lowering of the floor from the dean's stall to the site of the original rood. The adoption of this plan secured to the east end dignity; it preserved history; it equalised the levels of both transepts; it revealed the plinths of the four noble columns supporting the tower, and it removed 9 inches of rubble which (till then) covered their bases.

This work we ordered. But at every stage I was painfully cautious and careful to keep the work in our own hands. Agreed that the floor was to be levelled, Mr. Charles J. Brown was authorised to make the necessary calculations as to the levels, alike from west to east and from north to south. This he did with conspicuous success, and this done the rest was mere labour and oversight. The floor was levelled and the elbow seats were introduced for less than 500*l.*, although I was assured by one of the highest authorities in the profession it would cost 3,000*l.*

May I now state as concisely as I can the work which public sympathy has enabled us to do? The walls, arches, columns and roofs of the presbytery, choir, transepts and nave have been unflaked of a thick coat of ochre with which they had been overlaid, and by which the beautiful Norman setting—so simple and majestic—was concealed. The roofs of the nave and of the presbytery were cleaned by Dean Goulburn. The whole cathedral is seen to-day as it was seen in 1101, when Herbert de Losinga completed the choir, and before the end of that century, when Eborard had built the nave, windows, arcading and Norman recesses, which were blocked up and even unknown up to 1893 and now reopened. Ancient frescoes of the thirteenth century are revealed. The tall wooden screens which bisected both transepts have been removed; the accommodation has been thus increased—an unbroken vista is presented. The ugly pews have given place to chairs, which deter appropriation, but which invite free occupancy. The flooring throughout is levelled. In the south transept we have recovered the meridian line, which had been concealed by the flooring of the pews.

There was no complaint more loudly voiced than that which was made about the filth of the cathedral. It caused great friction between myself and those who are responsible for the cleanness of the temple. When fault was found, they said it was impossible to keep it clean, because of the age-long dust accumulated in the triforia. In a large well-windowed fabric there was always more or less of wind. This scattered clouds of dust over seats and stalls towards the evening of a day on which all had been clean in the morning. Some idea of the reasonableness of this reply will be gained from the fact that shortly after I began the work 43 large pails of dust were removed from the triforia of the presbytery. I then laid before the Chapter a plan for meeting the case which was warmly approved. We resolved to cement the floor of the triforia, and to do the same with that of the clerestory. To this is due the salutary change in choir and in nave. It is at last possible to have a clean cathedral without overworking the servants. And, as a matter of fact, many visitors from all parts of

England have freely expressed their surprise that a building which is so well used, and which every Sunday in the year receives thousands of persons, is by noon on Monday so clean that one might fancy it was hardly used at all. The wooden roof of the triforia has been carefully examined. Many of the beams were decayed. They have given place to seasoned timber. There is not an inch of unsound wood now in any roof.

Coming to the exterior, and walking the whole length of the north, south and east sides, a vast work has been done. The parapets were ready to fall. Several windows in the nave aisles, triforium and choir, together with a great wall, now faced, were in a pitiable condition. In one place the wall was bulged. The base mouldings had generally disappeared. The asphalte channel, so necessary to the dryness and durability of the foundations, had gone. The Jesus Chapel was approaching ruin. The roof of chestnut was rotten. The lead was worn and cracked, and Mr. John Pearson said it could not be long left as he saw it without danger. But we resolved to save that beautiful apsidal church. We removed the whole of the rotten roof of chestnut. We erected a roof of oak. We cut the lead afresh and gave the chapel a new covering. We erected in the museum over the chapel a symmetrical arch, which we found in perilous decay, and proceeding patiently with our programme, continued our work along the north side until decay has given place to durability, dilapidation to restoration, and ashlar surface, traceried window, shaft, parapet, gutter and roof have been so treated that, save for the subtle deterioration of time or the stern suddenness of accident by lightning or storm, there is hardly any reason why the cathedral should not now exist for century after century. We have studied the quality of the stone. As for the core it is where it has been for 800 years. "It is as hard as flint," said the late Mr. Ewan Christian to me "It would take artillery to level Norwich Cathedral. Your core is like iron. How different is Peterborough. If you removed a stone there, in some parts, you heard the rattle of the loosened flints and the flow of mortar, which age has softened to sand." No more useful advice has been adopted than the laying of a course of concrete alongside the cathedral walls. The foundations are thus saved from damp and from the certain danger it always develops.

The south side of the cathedral was not as dilapidated as the north except in one bay. This took a great deal of time and anxious thought. We gave both freely. The transept here was, for some reason still unknown, very much perished. But with its completion we had accomplished the repairing circuit of the great church. Beginning over Dr. Bensly's office we went along the south-east, the east to north-east, the north, and passing over the ill-treated and puzzling west, we came to the south, until the last stone was set near to where the first external reparation was begun.

This brought us to the end of May 1899. When we began the south side, my earlier purpose—to avoid the cloister—began to waver. I consulted Mr. St. John Hope, whose love for the historic past is as ardent as his knowledge is varied and deep. He gave me ungrudgingly of his learning and of his time. Seven-eighths of the upper storey of the north cloister was leaning out and was curved. And I now confess my heart sank when I saw there was no other course open than to cope with it. To defer it was to allow wet and frost and weather to do destructive work, and to enlarge the gradually increasing space between the ashlar and the core. But I was encouraged by the discipline of eight years' work. The conservative character of the restoration limited our labour to copying. This sharpened observation. This gave us caution, and made us avoid the least approach to any new departure. I never forgot that the cloister, representing four styles of architecture, was absolutely unpurchaseable by all the gold in Africa, and patience was inspired by the fact that it occupied 133 years in building.

On the west wall of the cloister some peculiarly interesting features were presented. One of these was a number of evenly eaten holes in the Caen stone. These were as large as a human skull and almost as smooth. I was led by their number and nature to believe that they represented the patient but mischievous work of an insect, whose antennæ contained a corrosive acid which the stone was powerless to resist. These cavities were only found on the west side. Another feature here was the existence of wooden instead of stone tracery in two bays. It was suggested that the wood should now be replaced by stone. This I declined to permit, for a fragment of history would thereby have been lost. The wood represented the diminished means of the monastery. There is, I believe, an entry in one of our sacrist rolls which bears on this point. It announces that someone had died and had left 15*l*. for the cloister. This enabled the builders to insert stone tracery in the bay which intervenes between the only two we have of wood. The rest of the work in the cloister was fairly straightforward I must not omit the grave danger by which it was threatened, owing to the absence of adequate provision to carry off the rain from the roof. This was caught by iron shoots, pouring tons of water into shallow pits, which easily filled, overflowed on to the garth and sank to the foundations. We have constructed a cement channel of unequal level on each side, and a drain to receive the rain. As these words are being penned, its completion is revealed not only by the aspect of the whole but by the cleanliness of the garth. Looking out upon it there are the vestries for the lay clerks and our choristers. These have been enlarged and improved to the comfort of those who render us such constant service.

I am quite certain I have got 40,000*l*. or even 50,000*l*. worth of work for less than half the smaller sum, and the work is well done. No novelty has destroyed historicity. We have an ancient cathedral repaired. We have not a nineteenth-century edition of a twelfth-century building. We have had our own staff of men from first to last. Of the rules given them by me, there were four which I regarded as of supreme importance:—(1) Whenever you are in a difficulty, caused possibly by the unexpected, do nothing; (2) Never, under any circumstances, interfere with old work; it brings you instant dismissal; (3) If a stone is decayed one or two inches in front, but has 7 or eight inches undecayed behind, let it alone; that stone is doing its work; (4) Let no imperfect work mar God's holy house. Mr. C. J. Brown's help in observing these rules and in seeing that they were observed has been invaluable.

I desire to acknowledge my abiding indebtedness to Mr. St. John Hope, one of the most learned living antiquaries, to Dr. Bensly, and to one of the most remarkable men I have ever met, I mean Mr. Wright, clerk of the works at Westminster Abbey. And if any of your readers should be led to undertake the reparation of an ancient church or other structure, experience and consultation with expert opinion constrain me to plead that counsel be primarily sought from antiquaries. On this subject I might say a very great deal.

May I conclude this reminiscence by a great regret, a great suggestion and a great joy? The joy is that through the reparation which the generosity of the public has enabled us to accomplish, every seat in the cathedral, except the official seats, is free and open to anyone. There are but four seats in the choir appropriated beside those assigned to officials. Three of these represent age and infirmity. They are not transferable. There are but four sittings appropriated in the nave, also to officials. None of these can be reserved after the slow bell has begun to toll. This is to me a joy. I know the change is unwelcome to many. I regret the pain I have been obliged to inflict.

My regret is that masons and labourers who helped us to perfect this great enterprise, and whose skill has been so valuable, have this week gone elsewhere. The work secured them regularity of wage; certain provision wherewith to meet the expenditure of their little homes and the tranquillity of mind which accompanies constant employment and punctual payment. One of our hands has been twenty-six years in our service; for before the effort now concluded was initiated, the policy of those in charge seems to have been to have piecemeal work always going on, so that the cathedral seemed to be in need of chronic reparation. The policy was mischievous and wasteful. I resolved to end it. But it is ended with keen sorrow for our separation from a set of reliable artisans who knew our methods and who sympathised with our work. I shall miss them very really. I shall miss our weekly prayer meeting every Monday morning, and to which I attribute in no slight degree the fact that in all the work, involving ladders, platforms, staging up to the roof of both transepts, as well as in Sir Samuel and Lady Hoare's restoration of the nave to its thirteenth-century glory, never have we had one accident.

And now I come to my great suggestion. The only portion of the cathedral I leave undone is the great west front, which has been so maltreated. This ought to be undertaken, though hardly by me. I remit it, provisionally, to the next Dean and to the next generation. It might cost anything. But I believe I could restore it adequately, and in accordance with ancient Norman instincts, for 2,000*l*. or 3,000*l*. Two towers have been, as I believe, needlessly removed. Their bases are covered by a vulgar wooden casement, which is unable to resist the weather. In two places the ashlar is gone and the core is exposed, in accordance with "the open sore" policy, which means perpetual pottering and wanton waste. The meanness of the west front is the more humiliating after a visitor has seen the nave, choir and transepts. As for the nave and all we owe to Sir Samuel and Lady Hoare, this may be safely stated, They did this work with loving generosity. They have, without a single alteration of ancient order, made the nave more like a fabric quarried out of ivory than any humbler material. The visitor will observe this, and will also notice that close to the great west door we have, through the liberality of my devout predecessor, erected on slabs of Portland stone the names of the bishops of East Anglia from the earliest times (north) and those of the priors and deans (south). But I repeat, the ivory-looking nave—so fine, so simple, so strong and majestic—makes the west front appear the more miserable. It does plead for remedial care.

It may be that one of your readers desiring to erect a memorial to generous love by which he or she has been benefited, or to offer a thankoffering to the Most High, would undertake this piece of service in whole or in part. It may be that someone to whom God has given opulence would be glad to be shown an object on which generosity could be expended to the glory of God. I cannot tell. I only suggest. Should such an offer be made, in whole or in part, the Dean and Chapter would most gratefully accept it. My suggestion would then take substantial shape. My regret would give place to gladness. We should reorganise our men, and in the promise of further employment their homes would be secured, their hearts would be gladdened, their labour would be enriched in one of the noblest of all services, and 1901 would witness the perfect restoration of the noble Norman cathedral which, begun in 1096, was opened for Divine worship in 1101—800 years ago.

THE ARBITRATION CLAUSE IN SCOTLAND.

An action was lately tried by Sheriff Robertson in the Aberdeen Sheriff Court. Mr. William Buchan, builder, sued Mr. Alexander Melville, C.E, Aberdeen, for 113*l.* 11*s.* 6*d.* as the balance due on his contract for the mason-work of two houses erected by defendant. The latter in his defences founded on certain conditions of contract signed by plaintiff and the other contractors, under the 15th clause of which he (the defendant) was appointed sole arbiter in all disputes arising between employer and contractor. The defendant maintained that these conditions of contract were incorporated in the bargain between him and the plaintiff, and he accordingly stated as a preliminary plea that the action was excluded by the clause of reference in question. The plaintiff, on the other hand, in expressing ignorance of the existence of such a clause, maintained that he was not bound by the conditions of contract in so far as they differed from those generally applicable to the building trade of Aberdeen, and he pleaded *inter alia* that they were of no effect in respect that they were neither stamped, holograph, nor tested nor duly signed by him, and further that defendant was barred from acting as arbiter in his own cause. The sheriff allowed an inquiry for the purpose of ascertaining the terms of the contract between the parties, and particularly whether the conditions of contract founded on by defendant were binding on the plaintiff. As the result his lordship held that the conditions of contract and particularly the clause of reference were binding on plaintiff, and he subsequently deferred the action in order that the defendant as arbiter might, if so advised, issue his award. The latter was thereafter duly lodged in process, and showed that the plaintiff had been overpaid by defendant to the extent of 69*l.* 18*s.* 8*d.*, and that he was also indebted to defendant in the sum of 50*l.* damages for delay in the completion of his contract. The plaintiff thereupon lodged objections to the validity of the award, and pleaded that defendant was disqualified from acting on the grounds of falsehood and corruption, and of alleged animus and hostility displayed by him towards plaintiff, and further that the award was *ultra vires* of defendant in respect that it contained a special decerniture for damages, and that certain of the items appearing therein as deductions were really of the nature of damages, and he accordingly moved the Court to find that the defendant was disqualified from acting as arbiter and from issuing any award, and in any event that the award already issued was *ultra vires.* The defendant, in his answers, denied the plaintiff's averments, and pleaded that they were irrelevant to go to proof, and further that it was incompetent for the Court to enter into the merits of the award. He also pleaded that the sheriff had no jurisdiction to consider the plaintiff's objections in this action, and, in respect that nothing had been found due to plaintiff under the award, he moved the Court to dismiss the action with expenses to defendant. The sheriff, dismissing the action, in the course of his note says:—I see no good reason for allowing this action to proceed further, especially in view of the fact that the competency of the proposed procedure is challenged. I shall dismiss the action on the ground that my jurisdiction is excluded by the terms of the conditions of contract, and that defendant's award brings out no sum due to plaintiff, and if plaintiff thinks right he can bring a reduction of the award Apart from the view I have taken, I question the relevancy of the averments made in the minute. I hardly see the possibility of proving that the falseness and corruption alleged were more than the natural desire of a man to look after his own interests, combined with mistakes in opinion or even of fact, which afford no ground for attacking an arbiter's award. Then with reference to the other objection, while it is quite true that an arbiter has no power to award damages unless expressly given him, it is difficult to say that the fixing on sums to be deducted in respect of the defective condition of the walls falls outside of what an arbiter in such a reference was intended to do; while Article 16 of the conditions of contract might quite well be construed as giving the arbiter the power which he exercised in fixing 50*l.* on account of delay.

THE SALE OF AN ARCHITECT'S BUSINESS.

The action Portsmouth *v.* Seward was of considerable interest to professional and business men generally, and to architects in particular. It arose out of the success of Mr. Edwin Seward, F.R.I.B.A, of Cardiff, in the competition for plans of the new offices for the Swansea Harbour Trust. From the facts stated in the case, it appears that up to the end of 1888 the late firm of Messrs. Seward & Thomas had an office at Swansea, and employed there as their manager Mr. H. C. Portsmouth, and that early in 1889 they arranged to give up the Swansea office and sell the business at Swansea to Mr. Portsmouth, and an agreement was entered into to carry out the arrangement whereby Messrs Seward & Thomas bound themselves to discontinue practice in Swansea, and not to open or encourage anyone to open an office for the carrying on of their practice as architects and surveyors in Swansea so long as Mr. Portsmouth should remain in practice in Swansea, excepting only that they reserved the right to act in all cases in which they might be called upon or specially invited to act in either branch of their profession. Messrs. Seward & Thomas accordingly ceased to hold themselves out as local practitioners at Swansea, but continued their business at Cardiff in partnership for some years longer, and for the past five or six years separately. In the autumn of 1900 the Swansea Harbour Trust required new offices and decided to adopt the usual competitive method of obtaining plans, and issued in the local and professional papers invitations to architects to send in plans anonymously under certain conditions. Ninety-seven such plans were sent in, and the first premium was awarded to Mr. Edwin Seward, whose plans were adopted by the Swansea Harbour Trust. Mr. Portsmouth, after the result of the competition had been announced, commenced an action in the Chancery Division of the High Court of Justice with the object of restraining Mr. Seward from acting for the Swansea Harbour Trust, alleging as his cause of action that Mr. Seward had broken the agreement entered into with him in 1889. On May 14 last the plaintiff, Mr. Portsmouth, applied to Mr. Justice Kekewich for an injunction restraining Mr. Seward from practising at Swansea, and Mr. Justice Kekewich granted the injunction. From this order Mr. Seward appealed, and the appeal was heard before Lord Justice Rigby and Lord Justice Collins on Friday, the 14th inst, with the result that the Lords Justices reversed the decision of Mr. Justice Kekewich and discharged the order for the injunction. In giving judgment Lord Justice Rigby said:—

In this case the defendant has been restrained from setting up an office and business in Swansea, and it is expressly provided that if anyone wishes that he should act for them in Swansea he is not to be restrained from acting. The defendants, who have made over their Swansea business to the plaintiff, actually gave him notice at the time that they did not bargain never to act in Swansea for anyone, but if they were called upon they were to be entitled to do so. They were not to open an office, and not colourably to do what would be equivalent to that, in any event; but here, finding that there is to be a competition open to all the world for prizes, they send, not their names—they send in a sealed paper as far as the name is concerned; but they sent in a competition which those who read it can see fulfils their requirements, and they say they are entitled to do that. I think it is not within any bargain that they have made, and that the attempt to restrain their business in such a manner goes beyond anything they have agreed to.

Lord Justice Collins said:—I am of the same opinion. I think when the whole of this agreement is taken together it is sufficiently clear, though I agree that ingenious minds may, by refining upon it, make it somewhat difficult to construe; much more difficult than it would seem to any person who read it over for the first time. You find the defendants actually carrying on business in Swansea as architects, with an office open there for that purpose, and they have also a business in Cardiff. The Swansea branch of their business is under the management of the plaintiff. They are desirous—both parties knew it—of continuing to carry on their business at Cardiff; they are not going to renounce their business as architects, in which they have acquired distinction in that part of the world; and whilst they intend to remain as local practitioners at Cardiff, they do not renounce their general rights as architects in this kingdom to accept business on special occasions if they should arise in Swansea, as in other places throughout the country. It is quite obvious what the parties intended. Let me address myself to what they have actually said, when we realise what the position was. Their manager, on the other hand, was anxious to step into their shoes, so far as the local business at Swansea was concerned. They thereupon make an agreement, every clause of which, as has been pointed out by Mr. Colt, is directed to giving effect to that general position. They agree to sell their business in Swansea. They make provision for handing over the tenancy of the office which they occupy in Swansea to the purchaser, and they agree to send out a notice of the fact that they have transferred their business at Swansea to the purchaser. All perfectly consistent with the intention to remain architects carrying on business in the adjoining town of Cardiff, and what they renounce in terms is that they discontinue practising. Now I think broadly, as a matter of common sense, there is a distinction between practising and taking isolated duties with respect to particular jobs, if I may use the term with regard to an architect, and I think the question might arise, if it had to be tried by a jury, whether there was a breach of the covenant not to practise. It would be a question for the common sense of the jury to say whether the acceptance of an isolated job was practically within the meaning of the agreement. I can perfectly conceive that under certain conditions if it were done often a jury might say that it was practising. If, on the other hand, they found that a distinguished consulting architect happened to give advice as to some matter in Swansea once, twice or three times, I think they might perfectly well say that that was not practising. You have to apply your mind to it without parting with your common sense in dealing with what the parties really were intending to bargain for. Broadly, it seems to me that what the defendant has done here could not, and ought not, to be described as practising at all. When we come to look at the terms that the parties have put their bargain into, it seems to me that either from greater caution or a scientific analysis of what was comprised in the original bargain, and then an exception introduced into it, whether after that analysis or simply from greater caution they have said now, it should be made quite clear that we do not intend to renounce the right to do this, we do renounce the right to practise; but if we are called upon or specially invited to act in either branch, either as architects or surveyors in Swansea, let it be perfectly understood that we propose to do it. We are not going to give that up; you shall step into our shoes in the enjoyment of the office; we shall not open an office and we shall cease to practise in Swansea, but we are going to accept any call upon us or any special invitation in Swansea.

That is the scope of the agreement; what happened then? The Harbour Trustees of Swansea published a general invitation to all architects to do what? To compete for two prizes of 150*l.* for designs of certain work to be done under their sanction. There is no special bargain on the face of the advertisement that the architect who gets the prize is to be employed, but by conditions which were modified after the original advertisement there is a statement that, subject to certain conditions as to his fitness and otherwise, they will employ him. It may be that that is not a special invitation, as Mr. James points out; it is a general invitation, but it is only a general invitation to enable the Harbour Trustees of Swansea to form a judgment as to whom they will specially invite, and having issued a general invitation there seems to be nothing whatever to bar this gentleman from sending in his credentials. When he has done it it so happens that he has won the prize. Thereupon, what follows? It seems to me a special invitation to him to do the work, so that if I relied on the special words of this agreement it seems to me to hit the very thing that is done, but taking the agreement as a whole it is not within the fair meaning of the word practising at all. It is not necessary to rely on that, because I think when you take the agreement altogether what they have done is something which they were distinctly entitled to do under the agreement. Therefore I think the learned judge was wrong in granting the injunction which he has done.

GEOLOGY AND ARCHÆOLOGY.

ON Saturday afternoon the Geologists' Association of London visited the Heathfield district. The natural gas at Heathfield station first demanded the attention of the party, and here Mr. Charles Dawson, the director of the party, explained the manner in which it was discovered and the method by which it is used to illuminate the station. The party then proceeded by brake to Brightling. On the way Mr. Dawson called attention to Jack Cade's memorial at Cade Street, Heathfield. He stated that the leader of the rebellion in the reign of Henry VI., named Jack Cade (otherwise Mortimer), an Irishman, was formerly a servant at the Baily Park, Heathfield. After the defeat of the rebels at Rochester he was pursued by Alexander Iden, sheriff of Kent, and his followers into Sussex, where he sought his old home. He was discovered in a garden near the memorial-stone in a starving condition, with a few parched peas only in his pocket. He was slain by Iden and his body brought to the king at London on July 15, 1450, where Iden was made constable of Rochester Castle.

Several geological specimens were obtained on the journey, the party eventually passing the well-known Brightling Needle and arriving at the observatory. In the course of a lecture in the observatory Mr. Dawson, according to the *Sussex Daily News*, said the view from that elevation taught a lesson, very elementary, but one which novices found most difficult to understand, viz that although they were standing on one of the highest points in Sussex, about 646 feet above the mean level of the sea, and apparently looking down on the chalk hills bounding the horizon on the north and south, yet geologically speaking, they were about 2,000 feet below the summit of those chalk hills. That was a most difficult thing for a beginner to realise. There was hardly a well-sinker in the district who had not some hazy idea that if he dug deep enough he would eventually come to the well-known water-bearing strata called the "greensand," whereas the very strata in which he would be digging there was already situated hundreds of feet below the greensand formation. The fact was that the chalk, the greensand and the gault strata, &c, although once overlying the strata at Brightling, had been denuded away in ages past and redeposited elsewhere through the medium of rivers and the sea. The very ground on which they were standing at Brightling, and the strata beneath for hundreds of feet formed part of the delta of a large river like the Mississippi. The delta extended over an enormous area. It had been traced over Sussex and Kent, and westwards to the Isle of Wight and Dorsetshire, and on the east as far as Belgium and the borders of Germany.

The complete area they could never hope to ascertain. At that time Sussex presented a very different appearance to that which it did now. It must have appeared as the delta of any great sub-tropical river—a succession of sand-banks and mud-flats intersected by a network of small water-courses, and subject at times to huge floods bringing down sand and mud containing plant and animal life from an unknown continent which the great river drained. Over those mud-flats, as the sun dried them sufficiently, wandered the colossal land reptiles of the Wealden period, leaving their footprints in the half-dried mud and sand. When their term of life was over some of them found their graves in the great delta of the river, where they still remained entombed. At some future age the surface of the great delta gradually sank. The huge continent through which the great river flowed was rearranged, or the course of the river changed or ceased to exist. The delta became at first covered with brackish water and brackish forms of shell life, and eventually the sea itself rolled over all. Over the Wealden strata was deposited the lower greensand, the gault and the upper greensand. The sea floor was still sinking, until in depth and character it must have resembled the sea floor of one of our great oceans. During that time the great deposit of lime, which they knew as the chalk formation, was forming, until through the lapse of ages it attained the enormous thickness they now saw. If they were to restore all the strata, above the spot upon which they were standing, up to the top of the chalk formation, it would make Brightling Beacon up to a height of nearly 3,000 feet above the sea.

After the deposition of the chalk at the bottom of the sea there commenced an upward motion, no doubt very gradual, and in the course of ages the whole of the area of the south-east of England and part of the coast of France rose into the shape of an elongated dome, almost the centre and highest point (geologically speaking) being Brightling Beacon. Taking an ideal section of that dome from the north Downs to the south Downs, the appearance would have been that of a huge solid arch, the highest course of which would have been the chalk formation. That section, however, must be taken to be a sort of ideal geological elevation plan, because it was probable that the arch never existed above the surface of the sea in so complete a form. As the top of the dome slowly rose to the surface of the water it became the subject of a great deal of wear and tear, and the chalk crown of the arch was worn away altogether by the planing action of the sea. It was for that reason that, looking on both sides of them, northwards and southwards, they saw the chalk hills which now represented the bases from which the outer courses of the arch had sprung. The elongation of the dome eastwards and westwards was so great that they could not see its chalk boundaries, for they extended south-eastwards to near the coast of France and westwards into Hampshire. Since the Wealden strata had been first thrown up and exposed, an enormous denudation by the action of the weather had taken place upon its surface. An excellent example of this could be seen in the great valley which ran from west to east between the two anticlinals on each side of Brightling. The valley was bounded by smaller ones known in Sussex as ghylls, on each of its sides.

All those valleys have been excavated during ages past by the streams which now ran through them. The rain which fell on the side of the hills carried down with it, grain by grain, the soil forming the sides of the hills into the streamlets which flowed at the bottom. Those streamlets hastened into the stream which flowed along the main valley, which eventually joined the river Rother at Etchingham. It carried along with it the débris of the Weald, which, with other matter derived from the watershed of the Rother, was building up the delta at its mouth at Rye in the same manner, but on a smaller scale, that the delta of the old Wealden river was built up ages ago from the débris of an older deposit. Mr. Dawson then went on to speak of the Purbecks and the method by which they were obtained.

After the party had partaken of tea at Perch Hill Farm, a few of the thousands of bell-pits for the extraction of the Purbeck limestone were inspected. Mr. Dawson here pointed out the manner in which the work was done, viz. by making a well 3 or 4 feet in diameter and digging to about 40 feet, when the limestone is reached. The cavity above the stone is then belled out on all sides to a diameter varying with the stability of the strata. The stone is then removed, and four small arched lateral chambers are dug at four equidistant points in the side of the bell-shaped cavity so as to extract as much stone as the pitman dare without endangering his life. The stone is then conveyed to the top by means of a trug basket and an exceedingly primitive windlass.

On the return journey Mr. Lewis took charge of the party and another route was chosen. The "Burwash Wheel"—a country inn alleged to be the foundation for the popular mistake of naming the locality "Burwash Weald" (which really has no existence whatever)—was passed, and Tottingworth, the residence of Mr. Logie Pirrie, was visited. Here attention was called to a very ancient and probably pre-Roman encampment, and in a lecture on the spot Mr. Lewis said they were standing on the southern flank of the northern anticlinal between Heathfield and Burwash, and it was the site of a very early encampment, probably pre-Roman. It was of an oval form, the largest diameter being north-east and south-west, which was 140 feet, and in its shortest diameter from east to west 102 feet. Unfortunately a former owner of the estate was so annoyed by visitors to view the encampment that he did all in his power to eradicate all trace of it, and now it was very difficult to trace out the complete outline. However, as his measurements were taken some years ago, he was glad to say the details were preserved. He should mention that in early days the great anticlinal ranges were the land highways of the Weald and the rivers the water highways along which the traffic in the iron trade passed. Encampments in the centre of the Wealden area were extremely rare, and that might be a sort of resting station on Col d'arbre (vulgarised into Coldharbour) along one of the principal highways communicating from the Rother country with Lewes and mid-Sussex. Formerly, said the speaker, there were other entrenchments on the north-east of that spot, but they have been recently destroyed and levelled. There was a field below in the valley to the south-east called "Slaughter Field," and in the stream boundary was found a bronze spear head, and those details might have some relation to the encampment the traces of which they were viewing.

EXHIBITION OF DECORATIVE ART.

ACCORDING to Ernest Tissot the modern Italians are cosmopolitan. Without renouncing either their historical traditions or their revived nationality, they desire to share and closely participate in all the progress of contemporaneous civilisation and join with other nations in the great struggle of labour. The foreigners who come in thousands to visit Italy every year are amazed to see the ancient land of history and art becoming a great manufacturing country, open to everything that is novel and useful.

It is natural, however, that also in Italian manufactures the artistic traditions of the nation should find expression. In this sense the "native land of beauty" is preparing a surprise for the year 1902.

Until the present time its greatest charms in the domain of fine arts were displayed in the works of old masters, which fill its galleries and churches and adorn the palaces of its venerable cities; while applied art contented itself with being a mere reproduction of the best models of the Italian Renaissance (early or late), such as the lace, the glass-ware, the metal-work, the carved furniture, &c., that are admired in so many museums.

But the mighty spirit of novelty that is now enlivening decorative art throughout the whole world, the craving desire for a really modern style, the longing for artistic improvement in the production of familiar objects, urge Italy, no less than other nations, to labour in a field in which modern genius has already carried off more than one brilliant victory

It will be in 1902 that the sunny land, as Shelley calls it, will open an International Exhibition of Modern Decorative Art, intended to bring together the most useful productions of the whole manufacturing world, which is nowadays aiming at beauty with no less care than at practicableness.

The seat of this exhibition will be Turin, the former capital of the new kingdom, which has become the most modern city of Italy. Foreigners scarcely know sufficiently this fine city of 350,000 inhabitants, extending along the banks of the Po, in front of its verdant hills, whence we have the unrivalled view of the majestic Western Alps, from Monte Viso to Monte Rosa, girding like a lofty gigantic wall the bright plains of Piedmont.

Turin is laid out in large blocks of stately houses, in squares and wide spacious streets, broad avenues and well-kept, blooming gardens; it is fitted with a thick network of electric tramway lines, connecting every point of the city with all the principal hotels, which are supplied with the latest improvements for modern comfort. The museums, the picture gallery, the royal palace, the celebrated armoury, which rivals that of Madrid, contain real treasures. No other city in Italy resembles Turin in its present aspect and in its restless progress.

At one extremity of this busy and active city, on the delightful banks of the river, extends the Valentino Park, in which, amid the most lovely scenery, the General Italian Exhibition of 1898, which proved such a success, was erected, and where next year the aforesaid Exhibition of Decorative Art will take place.

This bold enterprise was placed under the distinguished patronage of H.M. King Victor Emmanuel; the managing committee has for its president H R.H the Duke of Aosta, cousin of the King, and for vice-president the Hon. T. Villa, chairman of the Lower House of Parliament. It will thus appear as an endeavour of exceptional importance, to which the most renowned artists of Europe and America, as well as the leading schools of art of both hemispheres, will contribute. The programme includes all practical applications of art to the decoration of streets and houses, general and detailed plans and designs, earthenware, metal-work, wall-papers, silk and cotton prints and textile fabrics of every description, furniture, domestic implements, &c. In compiling the regulations, the committee was prompted by true liberality, so as to allow gratuitously ample space to the exhibitors for their different productions. We are informed meanwhile that the Italian Government, as well as their ambassadors and consuls abroad, are doing their best to insure foreign exhibitors all the encouragement they can possibly desire.

Artistic Italy has never appealed to other nations in vain. If "without her," as a well-known French writer said, "nothing great has ever yet been accomplished," it is right Italy should, for the sake of decorative art, the pride of contemporaneous labour, call foreigners together, as she was wont in every time to invite them to behold her historical treasures.

LONDON TOPOGRAPHICAL SOCIETY.

THE third annual meeting of the London Topographical Society was held on Monday at Burlington House, in the rooms of the Society of Antiquaries, with Mr. H. B. Wheatley in the chair. The report of the council, the adoption of which was moved by the Chairman, stated that the outcome of the Society's work last year was the issue of eight sheets of the reproduction of the plans prepared for the Kensington Turnpike Trust in 1811; these sheets, with the two already issued, covered one-third of the whole work, and good progress had been made with the remaining sections. Sixteen new members had been added in 1900 and nine in the current year. The losses which the Society had recently sustained by death included Mr. Arthur Cates, Sir A. W. Blomfield, Mr. J. E. Gardner and Sir Walter Besant. The report went on to say that the study of London required more than anything else the unearthing and publication of new and original material, but the difficulty of the Society was to make its objects known and to obtain enough members to enable it to cope with the work. There were several interesting maps and views awaiting reproduction—*e g.* the "Prospect of the City of London and Westminster and St. James's Park," by John Kip, 1810, the large map by Aggas showing London as it was in the reign of Elizabeth, and two views by Hollar, which, when placed in juxtaposition, formed a panoramic picture of the whole of London in the time of Charles I. One of the principal objects for which it was started was to make a record more complete than was otherwise possible of the changes that were constantly occurring in London topography. It made no proposition for the preservation of buildings, though rejoicing at every public-spirited action in that direction; its concern was only to publish a yearly record of the demolitions and changes and of the alterations in street names, having accurate drawings made in the case of the more interesting buildings, as in the three parts of the "Illustrated Topographical Record" already published. In this work it felt it had a claim to the good-will and assistance of the public bodies of London and their official representatives. Formal business brought the meeting to a conclusion.

The Chairman, in moving the adoption of the report, referred to the losses of the Society during the year, especially regretting the death of Mr. J. E. Gardner, whose collection of drawings of London buildings was unique. Mr. Gardner was one of the first to commence a collection of views of London, and to set artists to work to draw interesting buildings. The Chairman also referred to the death of Sir Walter Besant, and, speaking of the work of the Society, expressed the opinion that the report was very satisfactory. They had done good work, but it was to be regretted that the subscriptions were so few, as they were much hampered by want of funds. At the same time, they were encouraged by the popular interest taken in London, and trusted that, as the Society became better known, it would receive more help. It was much to be regretted that interesting buildings in London were constantly being demolished. South Sea House was to be regretted; but Christ's Hospital would be a still greater loss, as it was undoubtedly the most interesting building left to London. He hoped that at least some portion of the latter building would be left. These demolitions could not be prevented, but some buildings had been saved, and he was glad to see that the two churches in the Strand were to remain. He hoped a stop would be put to the wanton destruction of City churches which had been going on.

Mr. John Brown, in seconding the adoption of the report, referred with regret to the intention to pull down the west side of Lincoln's Inn Fields.

The resolution was carried unanimously. The remaining business was the approval of the accounts, the re-election of the council, and the passing of the customary votes of thanks.

OPERATING THEATRES, ST. THOMAS'S HOSPITAL.

THE new children's ward and operating theatres in St. Thomas's Hospital have been opened by Lord Lister. His Lordship said the theatres had been most ingeniously planned. The old theatre was divided by a horizontal partition, and the upper of the apartments thus obtained divided vertically to form two theatres, the lower being converted into perhaps the most beautiful children's ward that had ever existed. In the theatres everything had been done that science could suggest to promote cleanliness and purity. But his surgical friends would not misunderstand him when he said that he regarded such elaborate arrangements rather as luxuries than as essentials. His own work had been done in old-fashioned hospitals, and it was not for him to say whether his practice in those hospitals had been satisfactory or not. But a day or two ago he had inspected the new operating theatre at the Western Infirmary, Glasgow, and there, while he saw much that reminded him of what they had seen at St. Thomas's, the ventilation was on the old-fashioned system; there was no attempt to filter the atmosphere, no sterilisation by heat was practised, and the surgeons did not change their garments before entering the operating-room. Yet as good results were obtained there as in any other place in the world. He had some jealousy lest students, taught amid such luxuries as were afforded by the new theatres at St. Thomas's, might feel discouraged when performing operations in remote country districts or in the homes of the poor, and give up the attempt to get aseptic results. He would suggest that those teaching in St. Thomas's should remind their pupils that good results might be obtained by simpler means.

The two theatres may be described as twin-theatres, being parallel to one another, side by side, and opening at the back into a common lobby, from which lobby there leads out on either side an anæsthetising room for each theatre, and also a passage which permits the withdrawal of patients after operations without the necessity of taking them through the anæsthetising-room in sight of a still conscious patient. On the south side of the west anæsthetising room is the sterilisation room which will be used to supply both theatres. This will contain a pressure steam steriliser for dressings, a water steriliser for the supply of germ-free saline fluid, and a large copper boiler for the cleansing of mackintoshes. One description will serve for both theatres, as the arrangements and fittings are identical.

The light is obtained from the skylight facing north, and beneath this at the north end of the theatre is the auditorium, reduced now to very modest dimensions in comparison with that of the old theatre. It consists of four raised tiers, the bottom one of which is 9 inches above the floor level, and made broader than the succeeding tiers; it is intended for the accommodation of the hospital staff. The remaining tiers are intended for the students and visitors, and are made narrow and of considerable height, so that a good view of the operation can be obtained even from the top step. Access is obtained to the auditorium from a door opening from the theatre corridor, and is so arranged that the staff enter on the bottom level, while a flight of steps leads to the upper tiers appropriated to the use of students and visitors. Two doors lead from this auditorium into the adjoining theatre; the door on the lower level allows the staff to pass from one theatre to another, while that on the upper serves a similar convenience for other spectators.

The whole auditorium is made solid and of white marble, it having been decided that skeleton staging was objectionable on account of the difficulty of keeping it adequately clean and free from dust. The auditorium is separated from the floor of the theatre by white enamelled rails.

On one side of the theatre, and running the whole length of the wall are two shelves, destined for the reception of lotions, sterilised fluids, hand towels, operation blouses, &c. Beneath these is a series of five sinks, the first two for hand washing, the third for the reception of the filters, the fourth as a cooling tray for porringers and operation trays, and the fifth as a slop sink for the use of the theatre sister. The shelves and sinks are all carried on cantilevers, a space being left between them and the wall, thereby avoiding angles that must necessarily occur if the sinks and shelves are bedded against the wall. On the wall facing the auditorium are arranged the sterilisers for instruments, porringers and operation trays, as well as rose burners for the boiling flasks containing normal saline. Opposite to the sinks a large glazed earthenware slab is provided for the mixing of plaster and the making of plaster splints, and above this is another shelf for the reception of hypodermic injections and various articles that may be required on emergency. In the surgeons' room there are sinks for the preliminary washing of the hands, and here will be kept the operation boots or overshoes and sterilised operation blouses. In this room the operator and his assistants will remove their outer clothing and boots and substitute in their stead the clean blouses and boots, so that no dirt is carried into the theatre proper. In the theatres proper and the rooms immediately opening out of them the walls have been covered with a dado of marmorite, which is a form of tough opaque glass, and offers a very smooth and easily cleaned surface. The walls above this are of Keene's cement covered with white enamel. The floor is laid with terrazzo pavement, with a slight slope toward the drain under the sink, so that the whole theatre and auditorium can be quickly and easily flushed out with water. The great aim in fitting up the internal arrangements of the theatres has been simplicity. Simple sinks without any overflows have been chosen in preference to complicated washing basins, and the drainage from these has been provided by an open channel on the floor, which has only one trap when it passes out of the theatre. Instead of pedal taps simple taps have been fixed. These are fitted with roses so that they deliver a spray of water at the required temperature, and are kept running the whole time during which the operations are in progress. The surgeon can, therefore, wash his hands without being compelled to touch the taps, and in addition he washes his hands in constantly changing water. It is believed that this arrangement is much to be preferred to basins fitted with pedal action taps which can only be worked by a rather complicated system of pipes, valves and actuating rods. Sterilised saline fluid for application to wounds will be obtained in large quantities from the water steriliser fitted in the annexe, and in small amounts from glass flasks especially provided for the purpose. For the rinsing of the surgeons and assistants' hands during operations germ-free water is supplied by pressure filters. The usual practice of rounding out all angles has been adopted, but the radii of the circles are much larger than usual, thus rendering cleaning even easier than is commonly the case. The theatre furniture is of the usual glass and iron pattern.

The plenum system of ventilation and heating has been adopted for the theatres and children's ward.

The tiling in the children's ward has been executed by Messrs. Doulton & Co., in accordance with a scheme drawn up by Mr. Stephen G. Holland, a governor of the hospital, who has defrayed all the expense of this decorative work as a memorial to his daughter, Miss Lilian Holland. To commemorate Mr. Holland's benevolence the ward is to be named "Lilian." All the tiles have been specially made for the ward, the angles being made of a rounded section and the junction with floor and ceiling is formed with concave mouldings. The series of picture panels deals with well-known nursery stories. The panels are of large size, and have been executed in underglaze faïence. In this method the designs are painted upon the surface of the unglazed tile, and are then covered by a coating of glaze fired at a high temperature, under which all the artist's work is preserved imperishably. Beginning at the left-hand side of the entrance to ward and proceeding round the ward to right the incidents depicted are:—

1. Little Bo-Peep with her Sheep. 2. Little Bo-Peep has lost her Sheep. 3. Little Bo-Peep returning with her Sheep. 4. Jack and Jill going up the Hill. 5. Jack and Jill coming down again. 6. Little Miss Muffitt and the Spider. 7. Cinderella and the Fairy. 8. Cinderella's alarm on hearing the Clock strike. 9. Cinderella tries on the Slipper. 10. Red

Riding Hood meets the Wolf. 11. Red Riding Hood at the Cottage Door. 12. Red Riding Hood rescued. 13 Jack the Giant Killer. 14. Dick Whittington entrusts his Cat to the Captain. 15. Dick Whittington on Highgate Hill. 16. Lord Mayor Sir Richard Whittington. 17. Little Boy Blue. 18. The Good and Bad Fairies at the Christening of "Princess Beauty." 19. Jack climbs the Beanstalk. 20. Jack summoning the Giant. 21. Jack running away with the Magic Harp. 22. The Sleeping Beauty awakened. Filling the smaller spaces are some panels of landscape, fruit and flowers. The whole of these designs were made by one of Messrs. Doulton's artists—Mr. W. Rowe—and were carried out at their Lambeth Works.

The architect is Mr. Percival Currey, of 37 Norfolk Street, W.C. The hospital was designed by his father, the late Mr. Henry Currey.

ROYAL ARCHITECTURAL MUSEUM AND WESTMINSTER SCHOOL OF ART.

THE president of the Royal Institute of British Architects, Mr. William Emerson, took the chair on Friday at the annual general meeting of the Royal Architectural Museum and Westminster School of Art, held at the museum, Tufton Street, Dean's Yard, Westminster. On the motion of Mr. J. P. Seddon, seconded by Mr. Lee, Mr. Emerson was re-elected president of the museum for the ensuing year. Mr. Emerson, in returning thanks, said they were at present in a somewhat transitional state, but he hoped that before long they would be in a more flourishing condition. Mr. M. B. Adams presented the report of the Council, which stated that through the good offices of Mr. Emerson a closer connection had been brought about between the museum and the Royal Institute of British Architects, which had promised an annual donation of twenty guineas to the funds, on condition that the Institute should be adequately represented on the Council, and that members of the Institute and of the Architectural Association be permitted to sketch from the examples in the museum without payment of a fee, during the hours when it is open to the public. The Council had resolved on carrying out repairs which would involve an expenditure of 700*l.* The Westminster School of Art well maintained its high reputation. In moving the adoption of the report Mr. Adams said there was a mistaken idea as to the value of the collection of casts in that museum. By far the greater part of them could not be obtained again, having been secured in specially advantageous circumstances when the cathedrals or churches were under repair, and there was special scaffolding available. As to the money value of the casts there was no doubt that if they were sold by auction they would be eagerly purchased for a large sum for German or American Universities or colleges, the people abroad having a keener appreciation of art culture and technical knowledge than was the case in this country. Mr. Pain seconded the resolution. The President, in supporting the motion, which was carried, spoke of the desirability of a rearrangement of the casts, and the addition of Renaissance casts to those already possessed of the Gothic period. He would be glad to give 20 guineas towards that object. Mr. J. P. Seddon promised 10 guineas for the same purpose. The vice presidents, council and officers were then re-elected, and the President was thanked for his services.

GENERAL.

The Secretary of the Institution of Junior Engineers, Mr. Walter T. Dunn, desires us to announce that the address of the Institution, on and after July 1, will be 39 Victoria Street, Westminster, rooms having been taken there on the first floor for offices, reading-room, library, &c.

Mr. Akers-Douglas, Lord Balcarres and Mr. Paulton have been nominated as members of the committee on the National Gallery (purchase of adjacent lands).

The Contract for building the new Royal Infirmary, Newcastle, was concluded last Monday, and the contractor is Mr. A. Pringle, of Gateshead, the price being 203,000*l.* The infirmary is to be erected in commemoration of Queen Victoria's Diamond Jubilee. The committee have received 100,000*l.* from public subscriptions, 100,000*l.* by the will of the late Mr. James Hall and 100,000*l.* from Mr. Watson Armstrong in memory of the late Lord Armstrong. The King laid the foundation-stone twelve months ago.

Sir Frederick Cook, M.P., has presented Cardinal Vaughan with two fine altar-pieces formerly belonging to Sir Francis Cook, one of which is by Mazza, a pupil of Titian, and formerly hung in a church in Venice; the other is a large Pietà by Guercino.

Dr. Herbert Williams, of Gravesend, has been appointed medical officer of health for the Port of London at a salary of 650*l.* per annum, in succession to Dr. Collingridge.

The Proposal to make a new road between West Smithfield and Cripplegate was again discussed at last week's meeting of the City Corporation. An objection was raised that the cost, 872,000*l.*, was too heavy, but it was decided to print the committee's report.

The First of two schemes for the provision of better dwellings for working classes has been carried out, and a block of dwellings recently erected by the Bath Corporation at a cost of over 10,000*l.* was opened last Monday.

The Formal Offer of Victor Hugo's house was accepted ast week by the Municipal Council of Paris. His two grandchildren will place in it 500 of his drawings and water-colours, also his wood carvings, writing-table and bed. They will also give 50,000 frs. for arranging the house as a Hugo Museum.

Prince Troubetzkoy, the Russian sculptor, is engaged on a monument to Alexander III, which is to be erected at St. Petersburg on the Perspective Nevsky. It is to consist of a large equestrian figure, and records by reliefs the Czar's connection with the first Siberian railway.

The Bishop of Liverpool in a pastoral letter has said that the proposed cathedral must be worthy of the diocese. "No thought of cheapness, no temptation to hurry must be entertained. It must be the best of its kind and not unworthy to rank with those great cathedrals of the past which are the glory of our country and of our faith. It must be the work of the whole diocese. A cathedral cannot be built in a day, perhaps not in a generation. Probably it must be raised piecemeal, as our fathers reared the cathedrals in bygone days."

Mr. G. D. Hiscox, painter, died last week at his house in South Hampstead. He was born about 1840 at North Wootton, near Wells; he studied for a time at Oxford, but subsequently entered the Bristol School of Art, at which he afterwards became teacher of drawing. In 1867 he became teacher in the School of Art at Windsor, and soon attracted the attention of the Court. From 1884 onwards he was a regular exhibitor at the Royal Academy.

"**Winklebury**," the site of an ancient Roman camp, is to be sold by auction on July 18. Alfred the Great visited the camp, and his elder brother, Ethelred, occupied it in the year 870 before going out to fight the Danes. Cromwell's Ironsides camped at Winklebury in 1645, and the British Museum has been enriched by many historical fragments found on this estate.

The Hospital of St. John and St Elizabeth, St. John's Road, removed from Great Ormond Street, is to be opened by the Lord Mayor on Monday, July 15.

The French Government have purchased the drawings by M. Ch. Chauvet, architect, showing the frescoes of the ancient château of Challant which were exhibited in this year's Salon.

M. Sedelmeyer has presented to the Louvre a landscape by John Constable, R.A.

Mr. E. Crofts, R.A., had the honour on Tuesday last of submitting for the King's inspection the sketch of the picture he is about to paint for His Majesty of the presentation of the South African War Medal on the Horse Guards Parade.

The New Drainage By-laws made by the London County Council have now been finally approved by the Local Government Board. Some paragraphs of the old by-laws have been repealed and many new ones introduced.

An Attempt to destroy the cathedral of Troyes by setting fire to some carpets in one of the galleries was frustrated by the arrival of the sacristan, who extinguished the flames.

Some Water-Colours and sketches of Algiers, Tunis, Turkey, &c., by the late M. J. Bourmanel, architect, which were drawn to assist him in the construction of the French hospital at Constantinople, are being exhibited in Paris.

The Cape Town Council wanted to raise the sum of 1,500,000*l.* for general city improvements, including 150,000*l.* for artisans' dwellings. This the ratepayers refused to sanction. It was proposed that the matter should be submitted to the ballot.

The Hull Corporation have accepted a scheme of the city architect, Mr. Hirst, for the formation of a city square near the Monument, measuring 272 feet by 216 feet. The approximate estimate for erecting the buildings, including the purchase of necessary lands to complete the block, is 92,000*l.*

A Selection of the historical photographs by Sir Benjamin Stone is to be exhibited at the Victoria and Albert Museum. It is hoped that the exhibition of these pictures will encourage not only the further development of the central collection at the British Museum, but also the forming of similar collections in provincial centres.

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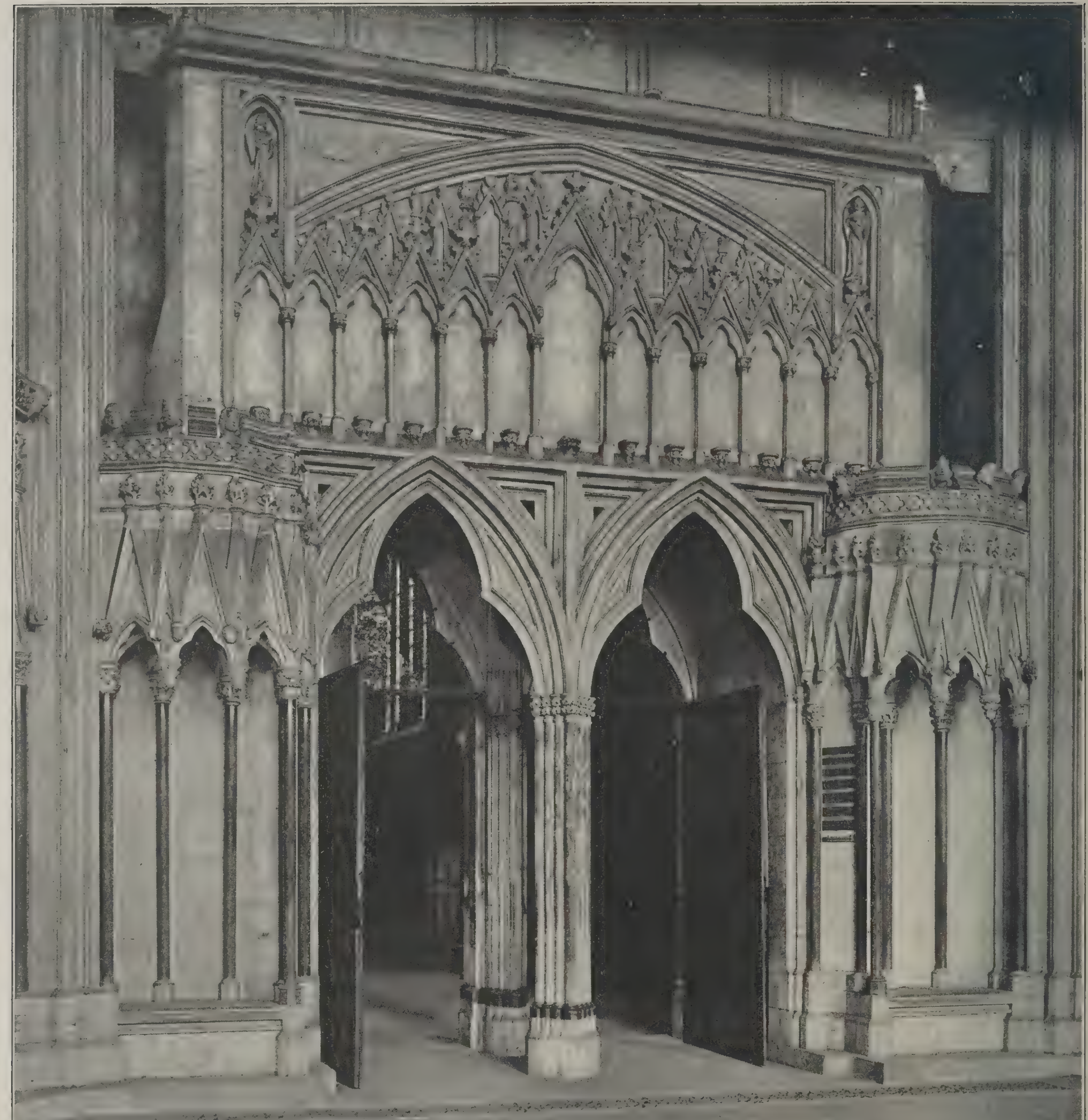

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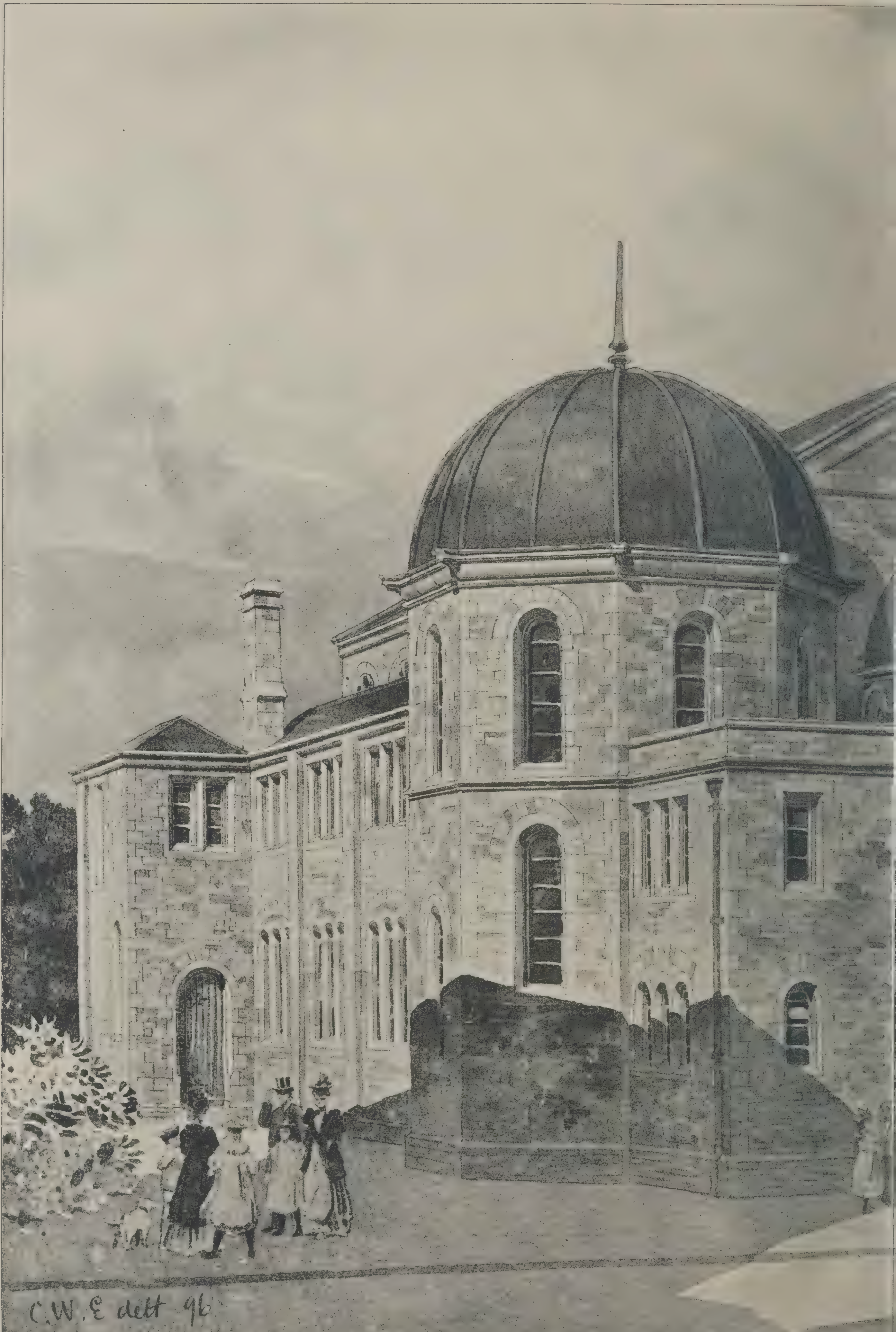

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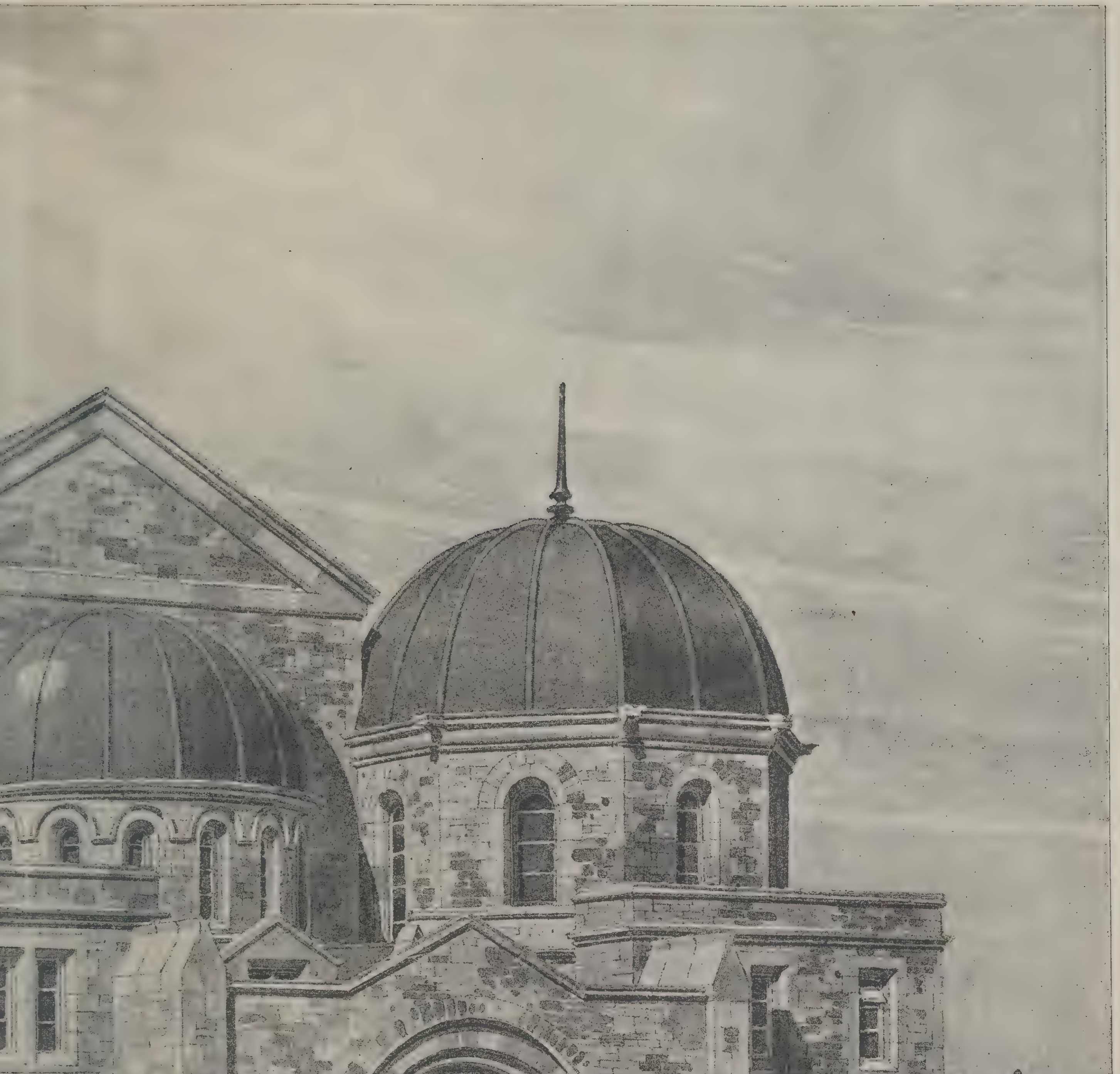

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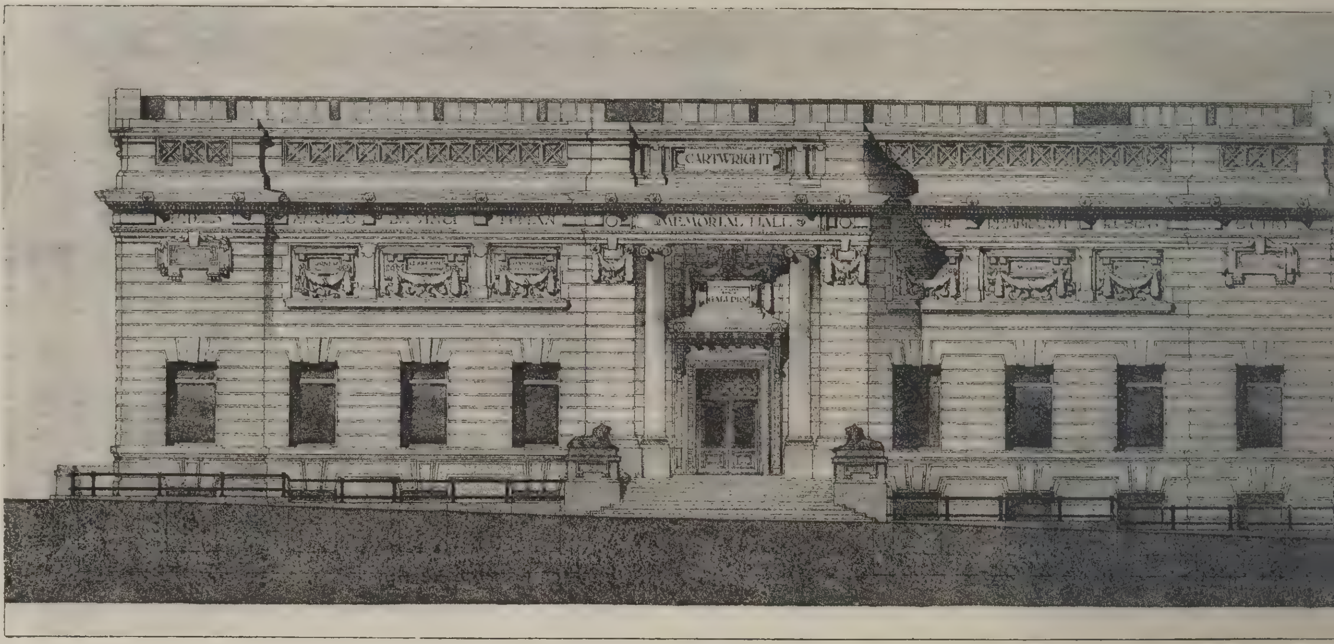

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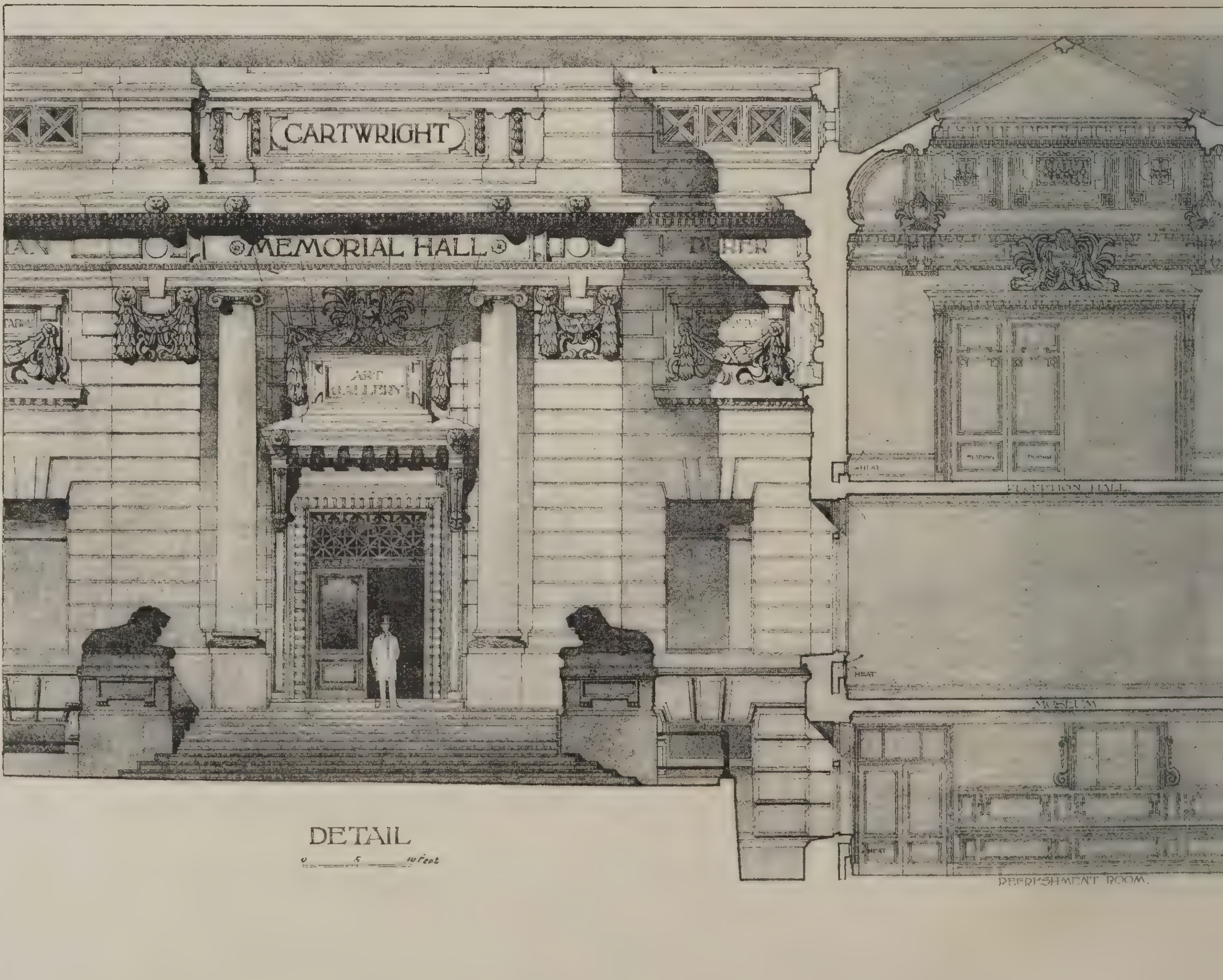

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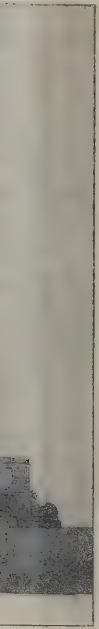

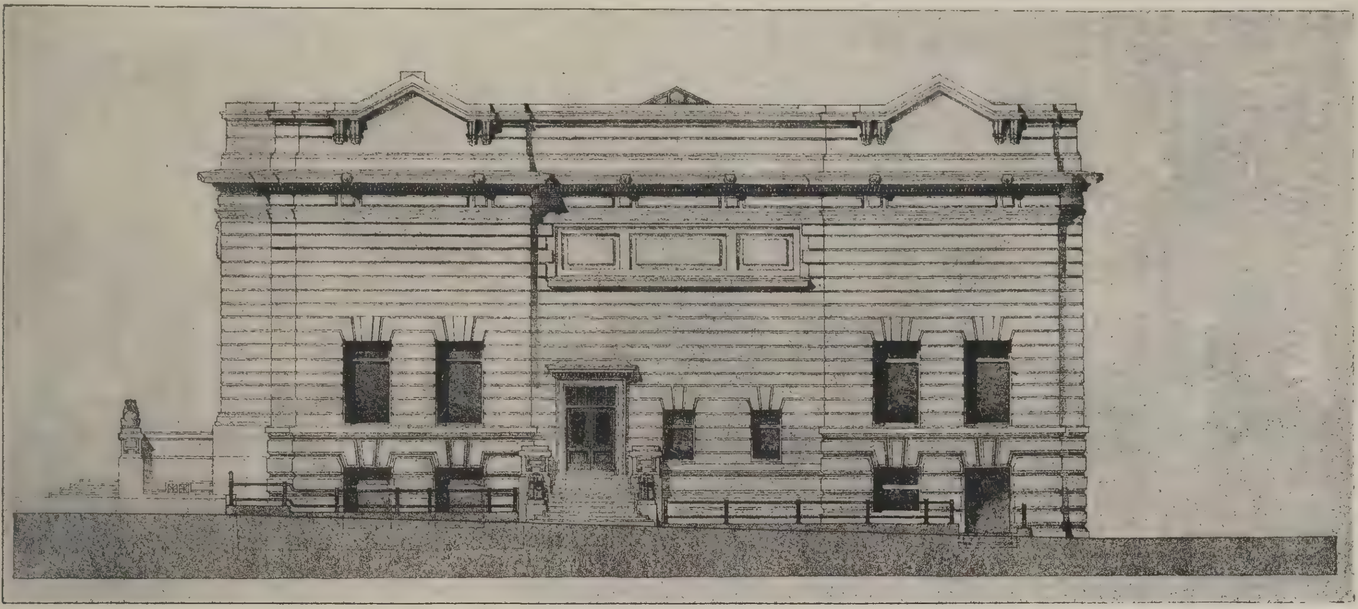

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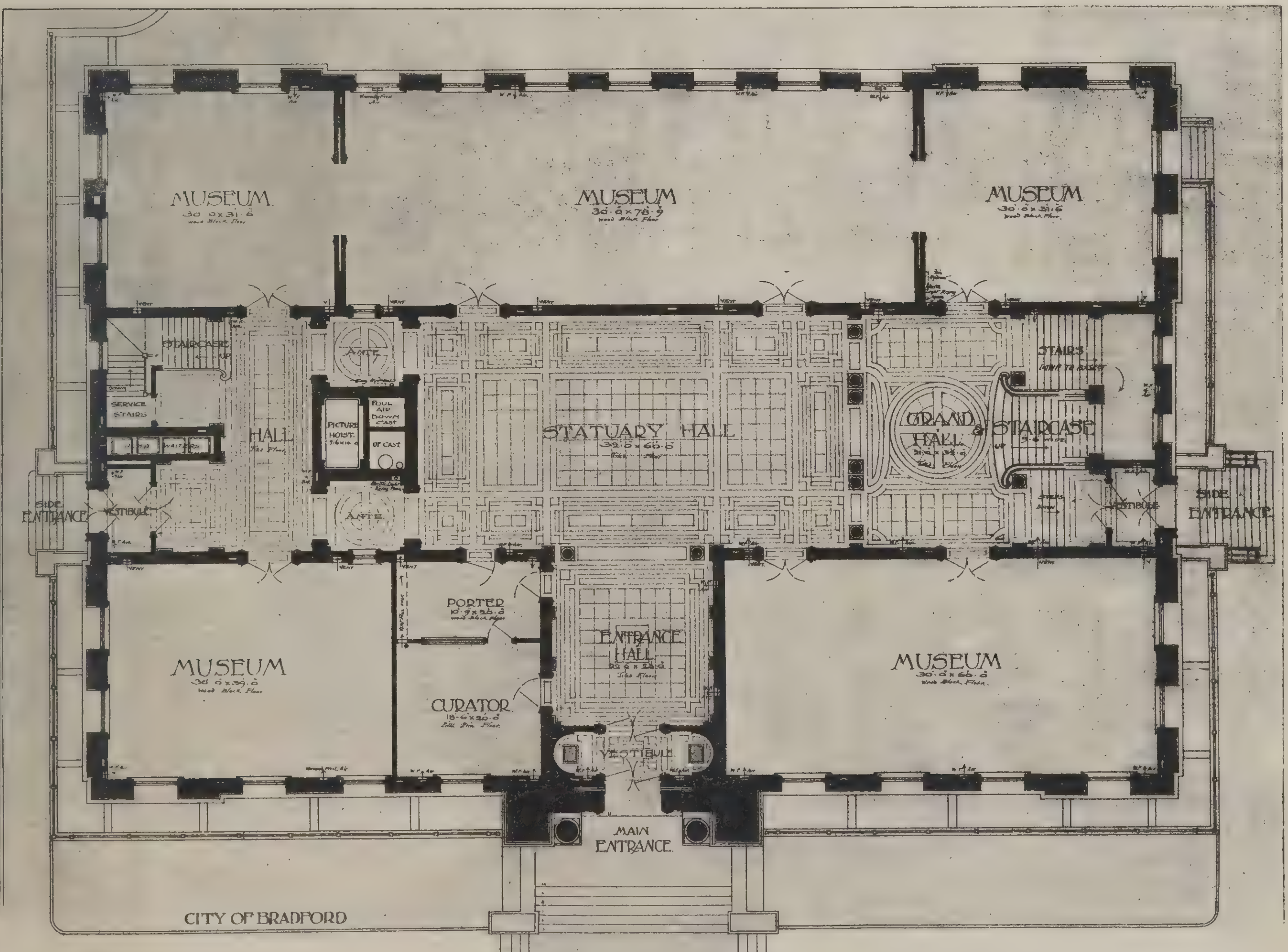

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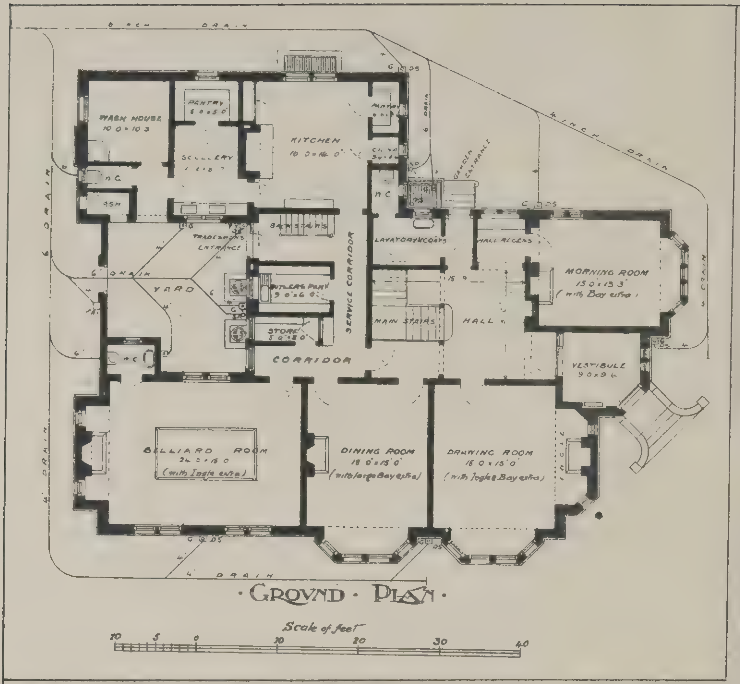

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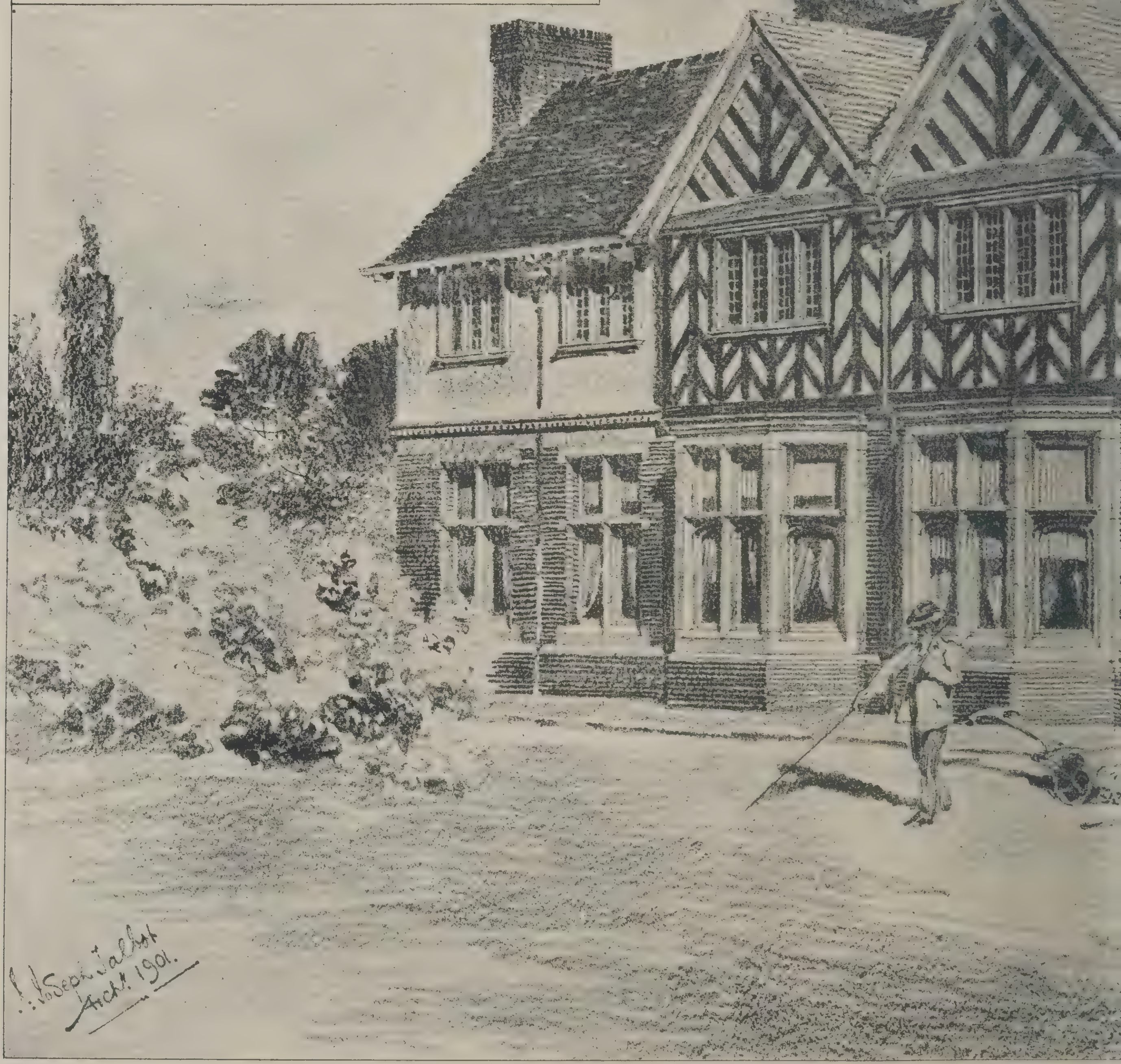

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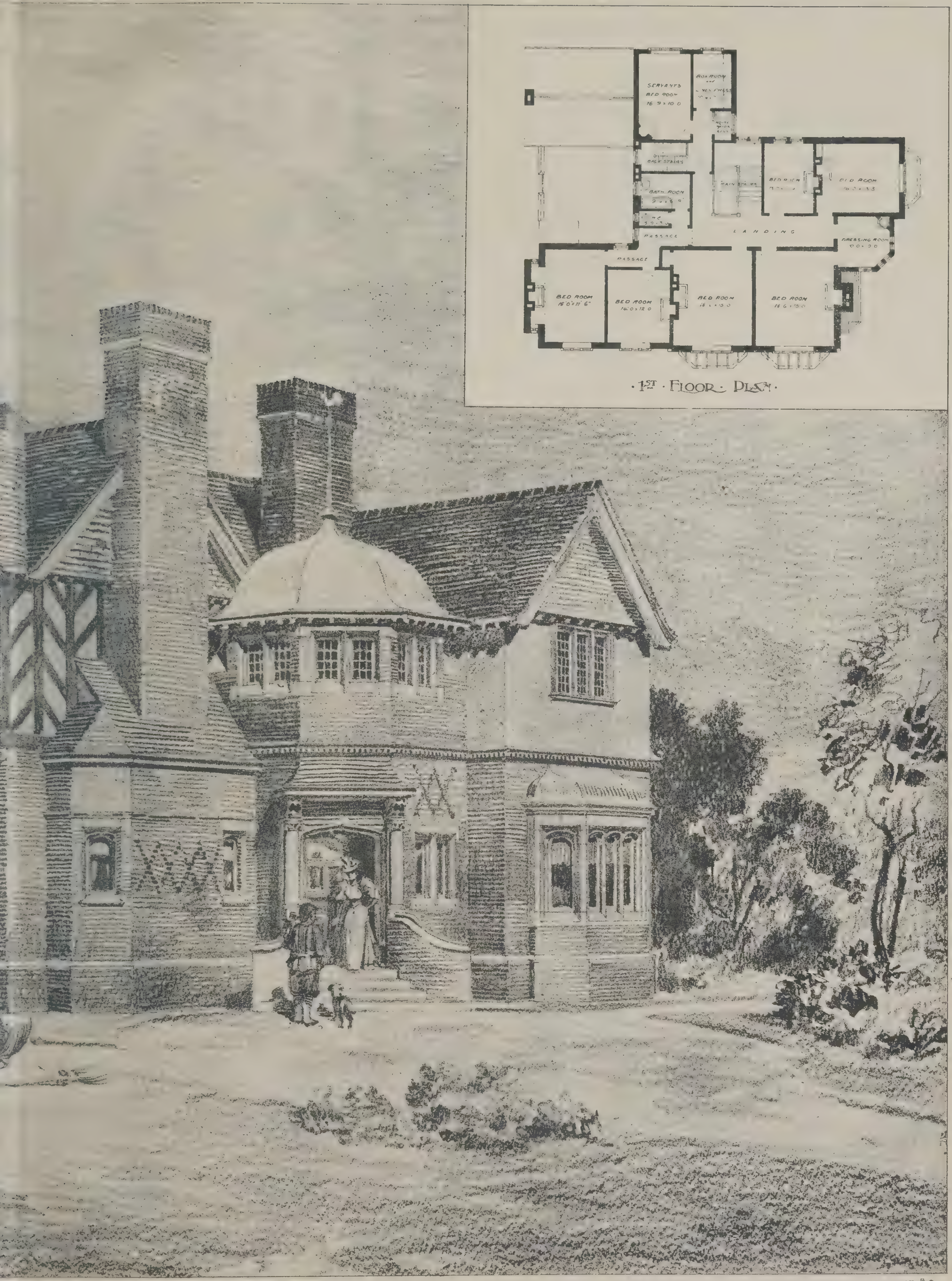

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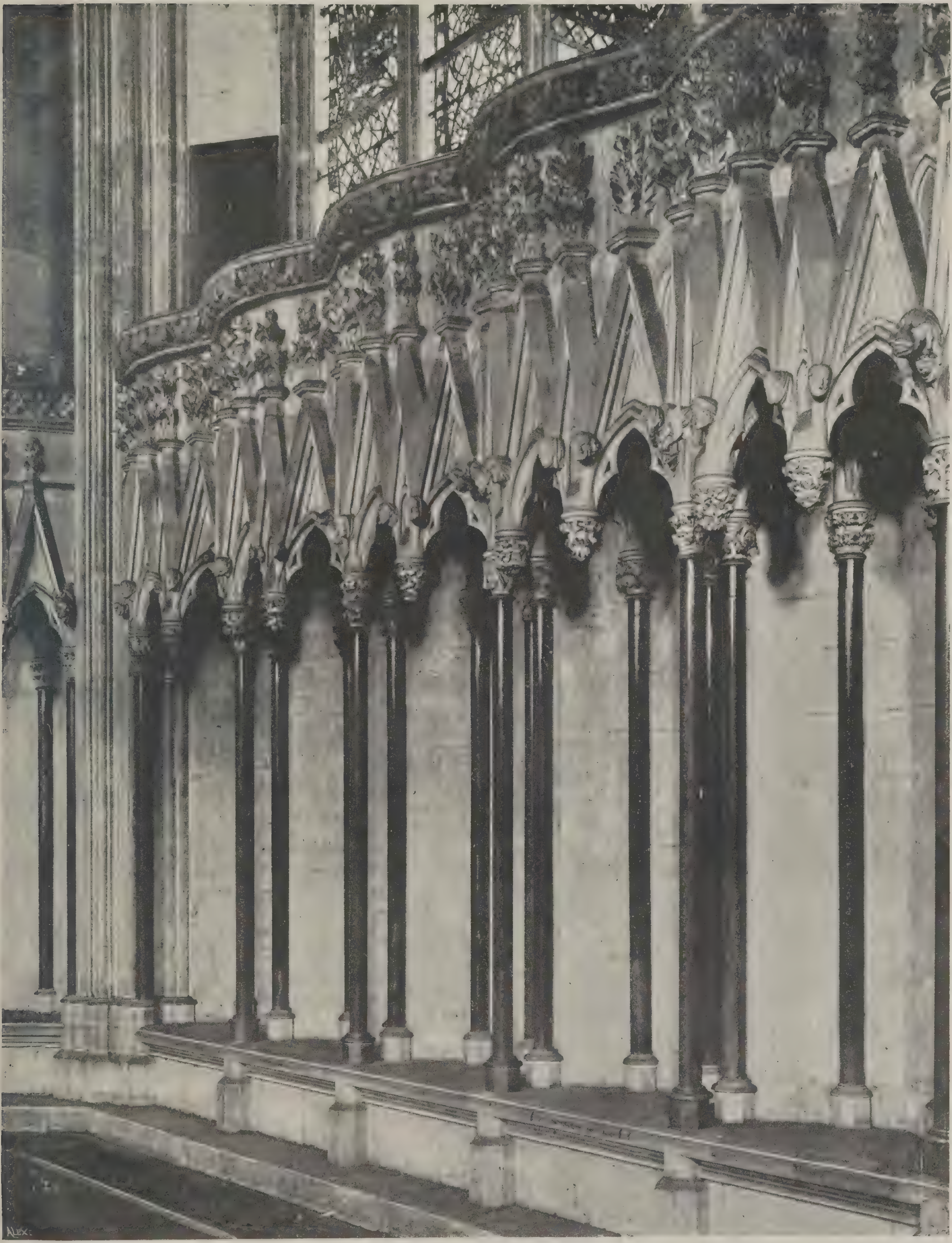

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